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FINANCE ENGINEERING COMMERCE

GEORGE BRONSON REA vs. "THE JAPAN CHRONICLE"

JAPAN'S FIGHT AGAINST DISCRIMINATION

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OSAKA-KOBE STATE HIGHWAY

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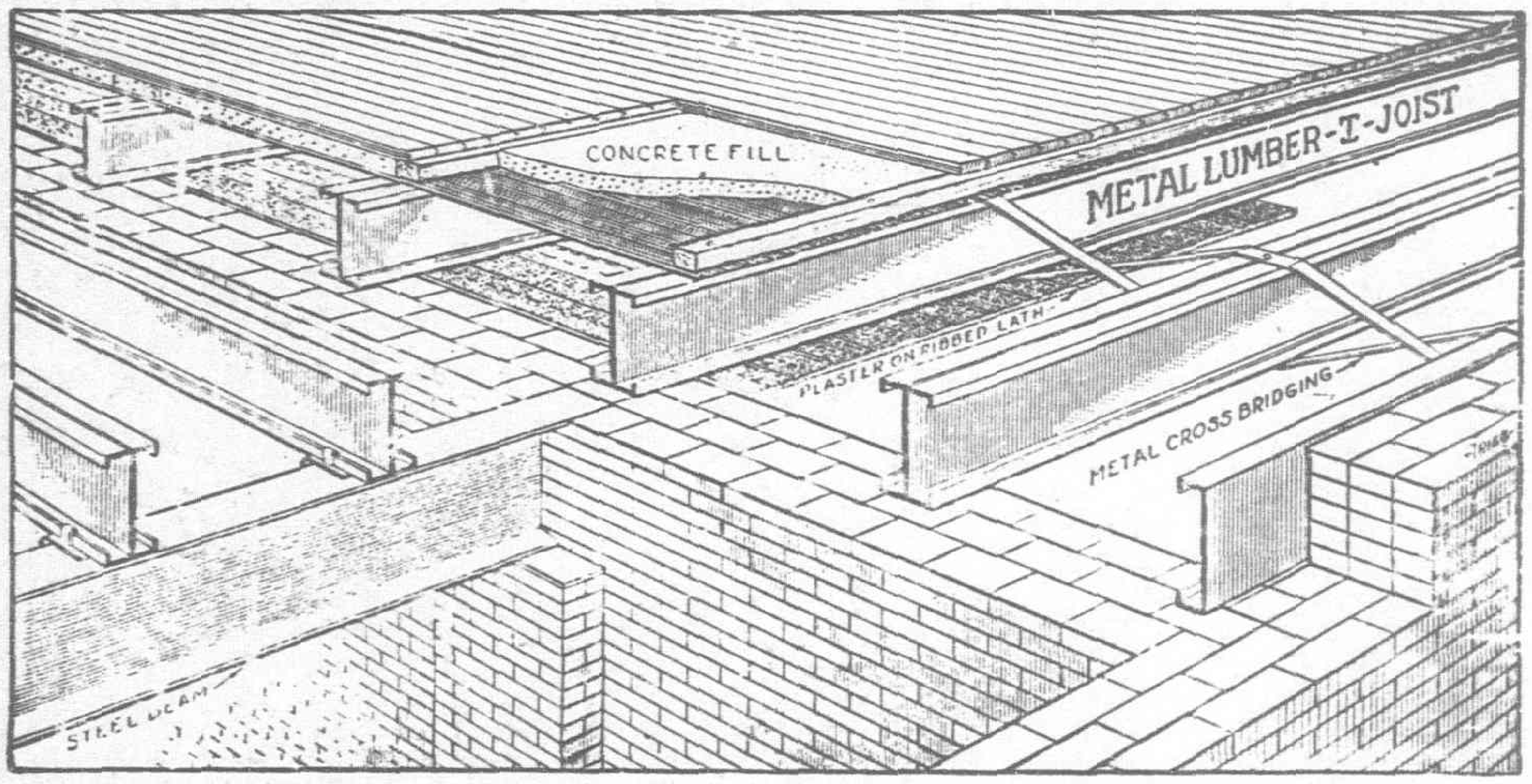

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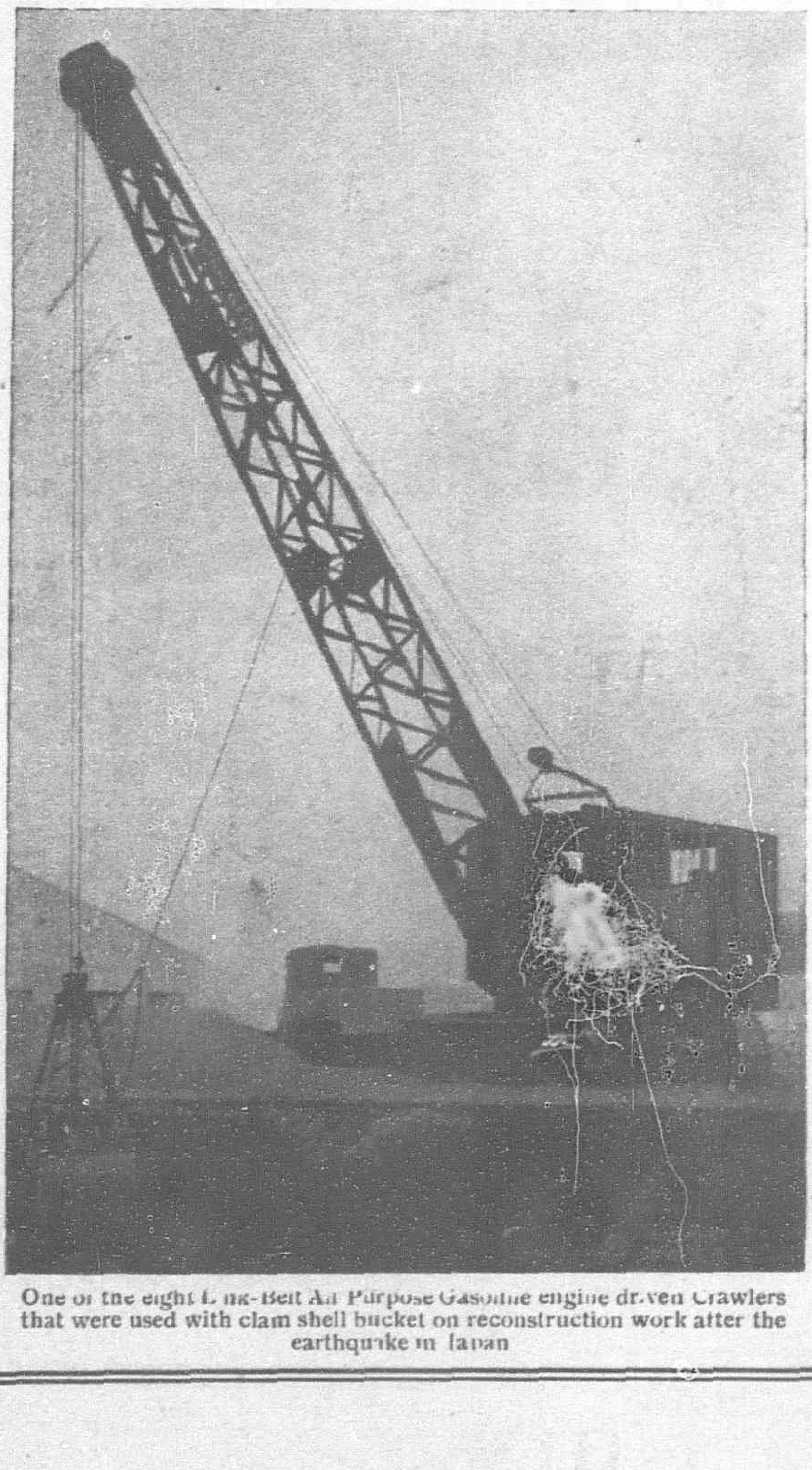

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The Far Eastern Review

ENGINEERING FINANCE COMMERCE

Vol. XXII SHANGHAI, NOVEMBER, 1926 No. 11

Mr. George Bronson Rea vs. "The Japan Chronicle"

A Controversy Arising Out of Mr. Rea's Statements of Fact on the Bombay Cotton Industry in the September Number of "The Far Eastern Review."

How Long Will Japan Tolerate Anti-Japanese Propaganda In its Own Territory.

IN publishing the principal articles in one of the most interesting newspaper controversies in the Far East during the past year, The Far Eastern Review is concerned not so much with defending its editor and publisher, as with the desire to give the widest publicity to the general facts of a constant effort to humiliate Japan and to distort the facts of Japanese social and economic conditions. There was a day when Japan was regarded as one of the backward nations of the earth. In that day, extraterritoriality and unequal treaties were imposed upon Japan. Fighting two wars to win independence and equality, reforming her internal administration, reorganizing her social and economic standards so as to come within the province of great and modern states, Japan finally won equality with the greatest Powers. During the Great War. Japan's position as a Great Power was recognized by the nations of the world by inclusion among the Five Great Powers, which dominated the Versailles Conference.

Now, some foreigners in Japan, cannot get over their old treaty port attitude. To them the Japanese are still a backward, unimportant people, who have to learn every little thing at the feet of these perfect Europeans, who prefer to live and earn their livings in Japan rather than in their own countries, but who despise the Japanese people and criticize everything in the country, even such developments as are bound to win only commendation from the impartial. Such men ought not to remain in a country they so despise. They surely would be happier in other places which they admire to such an extent that by comparison everything is wrong in Japan. Mr. Rea does not question the right of freedom of the press nor of fair, unbiassed criticism. His resentment is aimed at the constant attacks levied at Japan and at the suppression of news which might elevate Japan in the eyes of foreigners. He further feels that newspapers published in Japan ought to give the Japanese a square deal in the handling of the news. He does not favor propaganda and the spreading of sycophantic falsehoods. All he ask is justice !

Mr. Geo. Bronson Rea

The principal articles on both sides of the controversy follow:

* * *

"Tightening the Noose Around Japan's Neck"

(*Osaka Mainichi*)

Mr. George Bronson Rea, publisher of the Far Eastern Review, has written a series of articles on the attack on Japanese textiles by the Bombay cotton mill-owners, in the September number of his Review. These articles deal not only with the specific subject under consideration, but describe accurately the commercial, industrial, and political life of Bombay and the effect of the concentration of the wealth of Bombay in the hands of the Parsees upon the international relationship between India and Great Britain and such rising commercial powers as Japan.

In the way of introduction to this series of articles, Mr. Bronson Rea writes an article briefly showing how Japan is now being encircled by all kinds of shut-Japan-out movements in different parts of the world, and very aptly entitles it "Tightening the Noose Around Japan's Neck." Among many things, he points out two outstanding cases of this anti-Japanese boycott, one in Egypt and the other in India. To quote him: "The Egyptian Government at the behest of Greek interests, imposes a discriminatory duty upon Japanese and Chinese leaf tobacco, killing at one stroke of the pen a profitable trade built up by years of painstaking effort. One outlet for Japan's activities was closed with a bang. The Bombay cotton mill-owners, probably the most inefficient body of industrialists in the world, are now moving heaven and earth to induce the Government of India to denounce the Indo-Japanese commercial treaty and impose a discriminatory duty against Japanese cotton yarn and textiles. An Indian Tariff Board is conducting a searching inquiry to ascertain how much protection, if any, is required to safeguard the Bombay mills against Japanese competition."

Though it causes us Japanese acute pain to think that the country we so dearly love is being hated by others for any cause whatever, yet the fact that Japan is being blockaded on all sides should by no means dishearten us, so long as we are conscious of the justice and righteousness of our own cause, which can rightly be termed the Peaceful Expansion of a Rising Nation. Mencius, the great Chinese sage, said a great truth when he wrote that whenever Heaven wants a man to become great it invariably makes him suffer from all kinds of adversities, so as to build up his character and strengthen his power to accomplish great deeds. We do not see why this noble saying of the sage should not apply to a nation as perfectly as it does to an individual. "Blessed are they who are persecuted for righteousness sake, for theirs is the Kingdom of Heaven."

* * *

G. B. Rea Again

Misrepresenting the Parsees

By *J. R. G.*

(The Japan Chronicle, October, 15)

In the *Japan Times* of the 2nd instant I have come across an article to be continued in subsequent issues—by Mr. Rea of THE FAR EASTERN REVIEW. The heading is "Bombay's attack on Japanese Cotton Goods," but in the opening paragraphs some undesirable remarks have been made against the Parsees of Bombay. The picture of the Parsees drawn by Mr. Rea is so far from the truth that with a view to defend my community it becomes incumbent on me to place some facts before the reading public.

Let me say in the very beginning that Mr. Rea's remarks against the Parsees are boundless in this exaggeration. I quote some of his sentences here: "I wonder how many Copts are required to hornswaggle a Parsee ?" "A few weeks in India tells me that the crafty Copt has nothing on the Parsee wizard, who holds the prize of commercial cunning and surpasses even the Red Gang of Moscow in unblushing effrontery." Mr. Rea seems to forget—probably conveniently—that he is not writing about some community of ruffians, crooks and cutthroats. What good can he expect to do by such a misleading article about a small community whose astuteness as well as pluck in business and trade, benevolence and magnanimity—both communal and cosmopolitan—are well known wherever Parsees are known ?

Since their emigration from Persia about 1,300 years ago the Parsees have settled on the western coast of India. Many of the big cities of Gujrat, which is also a part of the Bombay Presidency, have large Parsee populations their own. Chiefly Surat, Broach, Navsari and the vicinity, Udwada and Ahmedabad have thousands of Parsees as inhabitants. Some of them in agricultural pursuits have settled in the interior and in some of the native states of Gujrat. It may be that after the advent of the British Mammon may have smiled more graciously on the Parsees, but it does not follow that their condition was unhappy before that. As the majority were agriculturists, landlords and traders, there may have been many well off even in those days.

As to the Parsees "holding the prize for commercial cunning and surpassing even the Red Gang of Moscow in unblushing effrontery," I should make bold to say that it is the creation of Mr. Rea's own imagination. In every caste or creed, whether Christian or heathen, there naturally are some black sheep and Parsees cannot be immune from that, but the percentage of such is so negligible that there is no justification for Mr. Rea's remarks.

Bombay owes its every existence to the advent of the English in India and it is natural that our forefathers with their sagacious eyes may have foreseen the necessity of gradually migrating to this port from their previous abodes in Gujrat. For such a small community, not even numbering 100,000, without state or kingdom of their own, had to look out for themselves, and on finding out Bombay to be a more suitable place nearly half of the community has settled there. It is no exaggeration to say that the English created Bombay and the Parsees made it by virtue of their constant flow of charity and industrial and commercial enterprises.

It is a fallacy to say that the prosperity of the Parsee community is founded on the riches gained from opium trade with China. Trade in a costly commodity like opium calls for no small capital from the very start, and therefore it was carried on by a very few traders. It is said that the Parsees first set their foot in Macao, then went to Whampoa, then to Canton, and then to Hongkong and Shanghai. Their arrival in China dates to 150 years ago or perhaps more. A very few dealt in opium, where as the majority dealt in the export and import of sundries, the chief being bangles, silks, fire-crackers, tea, cotton, saltpetre, shellac, spices, etc. Moreover, the opium consigned to China was not on the Parsees' account always but in some cases there were consignments on Marwaris' and others' account also, the Parsee firms in China acting as commission agents. It is necessary to point out here that had it not been for religious restrictions on migration the Hindoos would not have complaint against Japan that some of allowed the Parsees to be the sole Indian traders in those times in China. The opium trade was not the sole foundation of Parsee prosperity as Mr. Rea gives us to understand. If we look to the opium combine in Shanghai, created after the Chinese revolution, we find a very minor Parsee element.

It is to the credit of the Parsees that, which they traded in opium as long as it was a legal trade, they bade it goodbye as soon as it was declared illegal. On the other hand, nationals, of the very Governments who have been claiming to try their best to wipe out the smuggling of opium and arms into China at the League of Nations' sessions, have been not infrequently caught in smuggling arms, narcotics, opium, and other contraband in China. Even it is a constant her nationals are constantly after that trade. Let Mr. Rea ask the Anti-Opium League regarding the evidence.

Mr. Rea continues "Out of the immense profits of that iniquitous trade the Parsees created the Bombay cotton mill industry for the express purpose of further exploiting the Chinese market, and to the millions which rolled into the city as the result of these two trade monopolies Bombay owes its present proud position in the British Empire." May I ask a simple question of Mr. Rea ? If Bombay created a mill industry for the express purpose of exploiting China, for the exploiting of which markets did Japan and Lancashire create the industry ? Mr. Rea should know, and perhaps he may be aware, that in nearly every function that comes under the category of commerce, trade and business in general there is some sense of exploitation always present. Men are not always driven by sheer altruistic motives in all these dealings are not Japan and England supplying China with cotton yarn and piecegoods ? Is not the greater part of exports of Japanese yarn and piece goods from Japan going to China every year ? Is that not exploitation ? And if Powers have no eye of exploiting China, why all this fuss of tariff Japanese yarn and textiles would be decomplication ? China wanted to impose duties at her will at the Tariff Parley on both imports and exports, but that did not suit the purposes of the Powers, especially the immediate neighbor, who always proclaims a readiness to extend the hand of friendship to poor China. The Japanese spinners came out with a clamor that any high import duty on trimental to their interests, and they even went to the length of sending their own delegate to safeguard their interests at the Parley. Is this all absurdity, or is it exploitation, that China cannot fix tariff duties even in her own territories ? As Mr. Rea admits, if Bombay owes its proud position to-day in the British Empire to the prosperity of the mill industry, it is all the more necessary that the industry should be rightly protected if necessary, and as India is an integral part of the Empire is the industry not entitled to protection at a time when it is surrounded by foreign industrial invasion ?

Now I come to the point as to why the Parsee is ubiquitous in Bombay. Bombay inspired prosperity in Parsees and they in turn gave full benefit of it to the city. In those days Parsees took interest in every sphere of life. They may be called pioneers in education, industry and commerce. Prosperity befriended them and with its help they put fully into practice that saying "Parsee they name is charity." As a result schools, colleges, hospitals, libraries, orphanages and other charitable institutions were founded. Some charities were exclusively for Parsees but some cosmopolitan. The Jijibhoys, Petits, Readimoneys, Wadias, Seths, and many others by their munificence amounting to crores of rupees have perpetually brought the whole community under their obligation.

The flow of magnanimity has infused the minds of their descendants with the importance of charities, and that flow goes on even now. Every year lakhs are poured into the coffers of the Trustees of the Parsee Anjuman for charitable uses. The J. J. School of Art, the only institution of its kind in the whole presidency, the Elphinstone College and Victoria Technicle College buildings, the University Senate and Research Hall, the Wadia Charity Funds, and other works of public utility are the direct results of Parsee prosperity.

Now let us take the industrial side. Here, too, Petits, Wadias, Taras, and others have their shares of activity. Shipbuilding was perhaps practically in the hands of the Wadias. The mill industry was developed by all the three houses, but the Tatas went further into the field of industrialism till they have now reached something like the Mitsubishis' activity in Japan. They have big hydro-electric plants, coal and iron mines, the large iron and steel works at Jamshed-pur, spinning and weaving mills, and business offices in many ports outside India. They were the first to introduce the Nippon Yusen Kaisha in India. The famous and palatial Taj Mahal Hotel of Bombay is also their creation. The Tata Research Institute is doing its duty in Mysore. Mr. (now Sir) N. N. Wadia, President of Bombay Millowners' Association, donated 16 lakhs of rupees for a large obstetric hospital for the women-labourers of Bombay mills, and his mother, the late Bai Jerbai Wadia, has donations amounting to nearly 75 lakhs to her credit, most of them in the shape of cheap-rented decent houses (chawls) for accommodating the poor and middle class people of her community.

The last factor of the ubiquity of Parsees in Bombay is the important part they have played in politics. It was Mr. Dadabhoy Naoroji who first preached the gospel of self-government and together with his bold Parsee lieutenants Sir Phirozesha Mehta and Dinshaw Wacha was one of the uplifters of the Indian national cause and Congress. To him goes the honor of being the first Indian elected in the British Parliament by an English constituency. These three personalities have done all they could for their country. Sir Phirobesha was a great debater of rare intellect and eloquence. In University Senate, Municipal Corporation and Legislative Council his was a commanding personality, Sir Dinshow Wacha, with his vast knowledge of the mill industry and finance, has taken no unimportant part in Senate, Corporation and Council. Besides these three great personalities there are not a few Parsee figures who have contributed and are constributing their share to Bombay's activity in general.

Mr. Rea dates his letter from Bombay " August 25," which is presumably of the current year, but the bright picture which he draws of Parsees' present riches in Bombay should date the letter as far back as 1880 or 1900. That was a period when Parsees as a community did possess wealth, palatial estates on Malabar Hill and in the city in general and practically monopolies in some trades and inlustries to the extent described by Mr. Rea. But now times are changed. Education has made marvellous progress in sister communities who are not slow in elbowing the Parsees in many spheres of trade, commerce and industry. Parsee prosperity has dwindled. Palatial Parsee houses and estates in many parts of Bombay have now fallen into the hands of other communities, and many Parsees have to seek their abodes in their newly made colonies in the suburbs. The monetary debacle after the World War must have cost Parsees crores of rupees. Mammon may be, although less graciously, still smiling on the Parsees, but most of the rosy picture drawn by Mr. Rea is now a thing of the past.

There are many millowners other than Parsees in the Bombay Presidency, the heart of the Indian mill industry. The Sassoons, Pabaney, Morarji Goculdas, Greaves Cotton, and others were and are all non-Parsee groups. Ahmedabad mills mostly belong to non-Parsees. What then is the cause, of Mr. Rea's force of attack on Parsees ? The fact that agitation for protection against Japan is vigorously carried on under the leadership of Sir N. N. Wadia, the Parsee president of the Millowners' Association, may be perhaps unbearable to Mr. Rea. The post-war period can be rightly called a protection-wrought by the Great War, European propagating period in the whole world and especially Europe. In their attempts at rectifying the mischief and damage States are running a race of protection against one another. Japan heads the list of racers on the Asiatic side. But for a Parsee, the son of a country under foreign rule, to preach and patronise protection for his country is in the eyes of Mr. Rea, an act of " unblushing effrontery."

Mr. Rea's attitude throughout his article is such that it leads one to be tempted to ask whether he and his press are acting under the influence of any subsidy. And if so, would be wrong if I were to ask, " How many propagandists are required to bamboozle one Mr. Rea ? "

* * *

Mr. George Bronson Rea in "Kobe Chronicle"

Critical Issue in Japan's Foreign Trade

THE solution of Japan's economic problem upon which rests the very future and life of the nation, hinges at this time upon the expansion of her export trade in manufactured goods. The realization of this truth influenced the government to call the South Seas Conference, and, if the resolutions adopted as the result of its meetings mean anything at all, they tell the world that the government of Japan is determined to use every legitimate instrument within its power to extend its foreign trade.

The success of this program is vital to the very existence of this country. There is no other peaceful remedy left to the people of Japan for the solution of their fundamental problem. Industrialization without foreign markets for the sale of the manufactured products can only increase the present unfavorable trade balance and intensify the existing depression.

Japan's legitimate aspirations to participate on equal terms in foreign markets will meet with opposition. Every argument and pressure will be utilized and exerted to keep this country in economic servitude to other industrial nations. If any large measure of success follows the new program, and the manufactured products of Japan find an increasing outlet in competition with those of other nations, her manufacturers must be prepared to meet increased opposition and resentment.

This may take the form of discriminatory tariffs imposed without warning in order to kill Japan's trade, as happened in Egypt early this year ; it may follow as the outcome of a violent anti-Japanese campaign waged by foreign industrialists whose inefficiency, mismanagement and corrupt practices disqualify them in honorable and open competition, as is now happening in India ; it may assume the more legitimate shape of high protective tariffs as occurred when the American Government raised its tariff schedule on vegetable oils, which killed the prosperous soya bean and oil trade of Manchuria ; but no matter what form this opposition may assume, Japan must be prepared to use every honorable method to safeguard her foreign trade, wherever and whenever menaced by false statements and misrepresentations of conditions in Japan, in order to create a wrong idea of her commercial morality and hold her up to the scorn and reprobation of the world. Faced with such a grave menace to the international standing of the country, every interest in Japan must stand shoulder to shoulder in a loyal and patriotic endeavor to defend the national honor.

In such a fight, Japan has the right to expect that every foreign newspaper published in the country will loyally support her cause, and even where there may exist an honest difference of editorial opinion in such matters, she has the right to demand Fair Play, by a full exposition of her side of the case, reinforced by a truthful presentation of actual conditions.

Japan, as a rising nation, has few real friends in the world. In the fight for existence through expansion of her foreign trade in manufactured products, she will receive little sympathy from foreign newspapers defending the interests of their own manufacturers. If Japan is to receive a hearing ; if her side of a controversy is to be presented fully and sympathetically, it cannot be done through the vernacular press of the country because of the difference of language in which it is published. This supreme duty devolves upon every foreign language paper in Japan, be it edited by Japanese or foreigners.

It must be admitted, however, that Japan can expect very little from the service of newspapers owned and edited by foreigners in this defence of her own case involving the rise or fall of her foreign trade and economic expansion. It is, therefore, the supreme duty of such newspapers, published in English, owned, controlled and edited by Japanese, like our own, to take up the cause of our country against the unjust and unfair campaign conducted so vigorously and so extensively as it is at present.

It is time that the business men of Japan awake to a realization of what they are actually up against. They must understand that the most effective weapon of modern trade warfare is newspaper propaganda. The heavy artillery of an enemy has for over a year been battering down Japan's prestige and reputation as an industrial and commercial nation seeking a market for its products and merchandise.

After a careful survey of the situation and out of a sense of the august duty as an organ of the Japanese nation and her legitimate interests, we have made up our mind to take up the gauntlet thrown down by our enemy, who desists not from any course of action aimed at recrimination and penalization of Japan.

Elsewhere we open our columns to an article, entitled "Stabbing Japan in the Back," written by Mr. George Bronson Rea, publisher and editor of the Far Eastern Review, Shanghai, who was made a scape-goat on account of his independent fight for the cause of Japan's overseas' commerce. We are not concerned much with his personal case as such, but the fact that there exists a contemporary of ours in this country which has gone so far as to insult our fellow journalist in a most abominable manner, has grieved our sense of Fair Play and journalistic morality to no small extent, and, moreover, the cause for which Mr. Bronson Rea stands is the very cause of Japan herself, hence the opening of our columns for the presentation of his case.

Perhaps Japan is the only country in the world which is so liberal minded as to allow the existence of such foreign-edited newspaper whose policy is to miss no chance whatsoever to discrited in the eyes of the world the country wherein it is harbored.

* * *

An Able Defense

Mr. Geo. Bronson Rea, Publisher of the "Far Eastern Review," Replies to Charges Made in The "Japan Chronicle" With Respect to the Bombay Cotton Spinning Revelations

(The Editor is particularly pleased to be able to publish Mr. Rea's contained and able defense of himself and his publication in answer to charges and criticisms leveled at him in the columns of the "Japan Chronicle." Mr. Rea is thoroughly conversant with the questions he is dealing with and has the respect of all those who know him in the Far East.—Ed. J. T.)

Eleven years ago, when the Twenty-One Demands were handed to Yuan Shih-kai by Minister Hioki. The Far Eastern Review espoused the cause of China and took the lead in denouncing what it considered in the light of the then-known facts as an unwarranted and criminal aggression against the sovereign rights of that country. Previous to that incident. The Far Eastern Review had always preserved a strictly impartial and friendly attitude towards Japanese problems and policies. When America entered the Great War, the Publisher of the magazine donned a uniform and entrusted the management and conduct of its editorial policy to his British partner, who, because of his convictions and intimate connections in Peking, where he resided, faithfully reflected and defended the Chinese viewpoint in all subsequent Sino-Japanese controversies.

For over four years, the Publisher of The Far Eastern Review refrained from any active participation in its direction. **The trend of events at the Paris Peace Conference however clearly told him that unless a strong and determined effort was made to counteract the prevailing anti-Japanese sentiment and propaganda it would result inevitably in hostilities between America and Japan over some question arising out of China.** After his discharge from the army, the Publisher of The Far Eastern Review attended the Peace Conference as an adviser to the Chinese Technical Commission headed by Minister Yeh Kung-cho, and while there very frankly dissented from the anti-Japanese attitude of his Chinese friends and their American expert advisers and as frankly warned them that he would not support the campaign then initiated to widen the breach between Japan and America. He left Paris with the determination to avert the impending catastrophe and by every means within his power to bring about cooperation instead of hostilities. This new outlook on Far Eastern affairs created a very reasonable and legitimate difference of opinion with his British partner, who seeing things from the viewpoint of Peking, refused to subscribe to the new policy and publicly resigned the editorship of the magazine, giving his reasons for so doing.

This incident was seized upon by other interested parties to destroy the usefulness of The Far Eastern Review and drive its American publisher out of China. As a direct result of their activities a boycott was declared against the magazine which in two months deprived it of practically all its American and Chinese advertisements. In addition, thousands of confidential circulars were mailed to all foreigners in China in an attempt to kill its circulation. The 'coup-de-grace' was to have been administered through a libel suit for an amount of damages nicely calculated to force the judicial sale of the property in the event of a favorable verdict. **The history of journalism does not record another instance of such a despicable plot to destroy the usefulness of a magazine because it had the courage to oppose and fight the deep-laid plans of a group of fanatical war enthusiasts.**

Had it not been for the twenty-five pages of legitimate Japanese advertising, which the magazine had acquired during the time its Publisher was disconnected with its management, the plot would have succeeded. Thanks, however, to this business and to old American and British friends who refused to be coerced by the war-clique, The Far Eastern Review preserved its existence and independence of thought. Since that period the fundamental policy of The Far Eastern Review has been to defend the interests of those who stood by it in its hour of need, going out of its way to explain the Japanese viewpoint. **"The Far Eastern Review" will continue to defend Japan as long as its cause merits such support and involves no taint of disloyalty to the interests of its own flag.**

The fact that it did not go under as a result of the above campaign, and that The Far Eastern Review has deeply pained certain of its anti-Japanese contemporaries, to an extent that whenever it comes out in defense of Japan or fairly presents her viewpoint, these organs invariably attempt to neutralize its views by cowardly insinuation that it has been "bought," always keeping just within the law of libel so that it is difficult to bring legal action.

Foremost amongst these detractors of The Far Eastern Review and its American proprietor, has been the British owned and edited *Japan Chronicle* published at Kobe. The policy of this newspaper during the Great War was openly pro-German and since the Peace it is strongly pro-Bolshevist. Although no honorable newspaperman gives credence to the libellous stories circulated to account for this strange trend of editorial thought at a time when the highest interests of the editor's own country demanded his full and loyal co-operation, and when the country of his adoption looks to him for sympathy to combat the growing menace of Sovietism, we find him cowardly insinuating that other equally independent writers have been subsidized.

Journalistic independence under such unpatriotic circumstances may be worthy of all commendation from those who sympathized with the enemy; they may also merit the substantial gratitude of Moscow; but when it arrogates to itself the right of insulting and questioning the good faith of other reputable writers holding opposite views, it places itself in a peculiarly vulnerable position. Throwing bricks are never arguments. In the case of *The Japan Chronicle* they are always boomerangs.

The Far Eastern Review published in its last number a series of articles on Bombay's Attack on Japan's Cotton Industry, in an attempt to defend Japan from the unwarranted slurs and insults of an industrial group, which, to cover up its own mismanagement, was urging the Indian Government to impose a discriminatory duty against Japanese textiles that would wipe out a growing trade and impair one of Japan's most important means of eking out an existence. These articles were written by the Publisher of The Far Eastern Review after a personal investigation of the conditions surrounding the Bombay industry. Two of these articles were reprinted in *The Japan Times*, because of their important bearing on one of the most vital phases of Japan's problems. True to its anti-Japanese traditions and policy as a free-trade organ, committed by its economic views to maintaining Japan in industrial servitude to foreign manufacturing nations, The *Japan Chronicle* has again attacked The Far Eastern Review for saying a good word for Japan and trying to offset a campaign that will bring disaster to many mills in this country. In its issue of October 15, there appears the following editorial comment; here appears the quotation from *The Kobe Chronicle* already published in this connection.

Ignoring the personal animus and uncalled for slur against the reputation of the Publisher of The Far Eastern Review, he retorts that his qualifications for comparing the efficiency of Indian and Japanese mills are based on a long engineering experience and an ability to form a common-sense conclusion from the evidence. Every such conclusion arrived at in his articles on Bombay is based on Indian official reports and a careful perusal of the leading books on actual conditions in India, all from the pen of unbiassed British writers. There is not a statement of importance in the series of articles referred to, that cannot be substantiated by direct quotations from competent British authorities and critics. In fact, his conclusions in most all important points, are not his own, and, were in necessary, he could quote chapter and verse from British authorities to support his facts.

Mr. Rea recognizes and admits that he may have been unjust to the Parsee community as a whole, and in so far as he has unintention allydone it an injury he is ready and willing to tender his most sincere apologies. It was a mistake, perhaps, to take the Parsee as representative of Bombay, but the main facts as set forth in the articles to which objection has been taken, have been almost bodily extracted from the early histories of Bombay and current literature. That the prosperity of Bombay was founded on the great profits from the opium trade with China is beyond dispute. That the cotton mill industry in Bombay was built up out of the enormous profits derived from the opium monopoly is, word-for-word, taken from a recent semi-official compilation on Bombay prepared for a Scientific Conference held in that city early this year. That the palaces of the Parsee millionaires monopolize Malabar Hill to the exclusion of the Europeans, is a comment taken from Sir Sidney Low's book, "A Vision of India." That the Parsee is ubiquitous and almost omnipotent in the commercial life of Bombay, is also a fact attested to in many special articles lauding the enterprise of these people. As to the charge of his unblushing effrontery, the term "Parsee" is employed as typical of a commercial community whose almost insolent rejection of Japan's courteous rejoinders to its charges and whose statement to the Government of India, is proof sufficient that the remark is mild indeed.

Mr. Rea has full knowledge of the many charitable institutions erected and endowed by the Parsee millionaires of Bombay and has nothing but praise for such humanitarianism, but he insists that these public monuments to their large-heartedness, worthy as they are, are offset by the intolerable conditions existing in the cotton-mills, from which these philanthropists derive in large part the fortunes which have made their charities possible. Mr. Rea cannot help but think that the first duty of the wealthy industrialist is to improve the living and working conditions of the unfortunate outcasts upon whose labor depends his own prosperity and that of the city and port of Bombay, and within the facts of the case has given full credit to the splendid example set by the two Parsee firms of Messrs. Tata Sons and Company, Ltd., and Messrs. Currimbhoy Ebrahim and Sons, Ltd., in instituting welfare work in the cotton mills under their direct management. It is a well authenticated fact that the Bombay cotton mill industry is controlled by a close corporation of a few Parsee families and their intimate friends and although there are mills owned by other interests it is not stretching the truth when Parsee domination is accentuated in any discussion concerning the industry. And when the spokesman for these interests accuses Japan of inhuman treatment of its women workers in order to divert attention from their own gross neglect of the welfare of their mill-hands, it is time some friend of Japan said a word in her defense, even if the sensibilities of the Parsee are thereby wounded.

By all the ethics of honorable journalism, that is a duty that devolved upon the editor of *The Japan Chronicle*, as his careful perusal of India and Home exchange must have fully acquainted him with the extent of the campaign now being waged against Japan in order to take away one of her limited means of existence. The Far Eastern Review has simply carried out an editorial duty that its readers and supporters in Japan had every right to expect of it, the same right that it looks to in vain for *The Japan Chronicle* to exercise in their behalf.

For two years the newspaper of Bombay have been slandering Japan, the campaign culminating this year by an open threat to invoke the punishment of the League of Nations by prohibiting the free transport of Japanese merchandise until such time as Japan ratifies the International Labor Regulations. All through the correspondence of the Bombay Mill Owners' Association with the representative of the Japan Cotton Spinners' Association and local editorials on the subject, runs a vein of thinly disguised insult, slander and baseless accusations. Yet with all the facts before him in the exchanges, the editor of The Japan campaign against Japan required strong arguments to answer the slanders of a community in which the Parsee business man is the acknowledged leader. *The Japan Chronicle* could find no space in its pages to present the case of Japan or protect her interests against abuse, but opens them to the extent of three columns for a Parsee to challenge the motives of a conscientious writer who attempted to ascertain the facts.

The use of the word "Parsee" as symbolic of Industrial Bombay while undoubtedly justified by the facts, is perhaps unduly stretching a writer's freedom by casting a reflection upon a class whose other high qualities were ignored. The Far Eastern Review will make all due apologies for taking an editorial license with facts which however faithfully portraying actual conditions, bring reproach upon the whole community. The caste system of India which condemns sixty millions of its inhabitants to perpetual degradation and obloquy and whose labor is exploited to carry on the industries of the country, is so repugnant to all conceptions of Morality and Equity what whoever profits from their misery is exposed to the criticism of all right-thinking people. Individual Parsee millionaires have undoubtedly contributed generously their wealth to ameliorate the intolerable living conditions of these poor outcasts and The Far Eastern Review makes all honorable amends to those whose philanthrophy along these lines goes far towards softening an indictment that their community as the result of any control of an industry brings upon impartial inquiry. The articles in the Far Eastern Review contained many other highly important points connected with the controversy, and if *The Japan Chronicle* can forget its violent prejudices and overcome its intolerance long enough devote its columns to a discussion of the facts without slandering the writer, it will be doing a service to Japan and its own country that an American editor felt called upon to undertake in the interests of Fair Play.

(Signed) Geo. Bronson Rea,
Publisher of The Far Eastern Review.

Osaka, October 15, 1926.

* * *

Stabbing Japan in the Back

Osaka Mainichi, Oct., 21, 1926

The following editorial article appeared in *The Japan Chronicle* of October 15:

> We print elsewhere an article by a Parsi reader concerning some of Mr. George Bronson Rea's ignorant abuse. In our opinion Mr. Rea's noise is not worth taking so seriously, but as he had slandered a very respectable community, we did not care to deny to a member of that community an opportunity to reply, especially as his abuse appeared in the Foreign Office near-English organ as well as in his own Shanghai monthly, which used to exist for the abuse of Japan and now exists for the abuse of anybody or anything that appears to Mr. Rea to be inimical to Japan's interests. Apparently this journalist has been doing some travelling propaganda for Japan, for we find the following in a Calcutta paper:
>
> Bombay, August 25.
>
> > The future peace of the world is threatened, declared Mr. George Bronon, renowned American Journalist and editor of the Far Eastern Review, if the Bombay millowners succeeded in raising a tariff wall against Japan. He suggested that what the Bombay textile industry needed could be done by "putting their house in order." Japan's competition was the result of efficiency, coupled with an organising power. Bombay could do as much and if instead it insisted on tariff advantage, it would be raised but that would lead to trouble, for it is an international question—(*Free Press*).
>
> It is rather hard on Mr. Rea to be spoken of as renowned—and called "Bronon." Apparently the telegraphist mutilated his name into "ren" and the transcriber of the telegram in Calcutta took it as a contraction for "renowned." But it is like Mr. Rea to go round threatening the peace of the world if India dares to put on Japanese goods just such duties as Japan puts on Indian goods. And it would be interesting to know what qualifications he has for comparing the efficiency of Indian and Japanese mills. He must do Japan quite a lot of harm one way and another—a great deal more than in the days when he flung his abuse at her so industriously.

For the information of the business-men of Osaka, I desire to place on record that The Far Eastern Review, an American-owned and edited monthly magazine published at Shanghai, has never at any time existed to abuse Japan. As a direct result of the Twenty-One Demands presented to Yuan Shih-kai in January, 1925, The Far Eastern Review openly espoused the cause of China and bitterly denounced Japan for what appeared in the light of the then known facts, to be an unwarranted and criminal aggression on the sovereignty of that country. As the result of a visit made to Japan in October, 1916, and a frank talk with Baron Shibusawa and Mr. J. Inouye, then President of the Yokohama Specie Bank, the Publisher of THE FAR EASTERN REVIEW arrived at a better appreciation of Japan's policies toward China and discontinued his anti-Japanese activities. On his departure from Tokyo after that interview he proceeded to Europe and the United States arriving home immediately after his country had entered the war. *He joined the army and up to March, 1920, the management and conduct of the editorial policy of the magazine developed upon his British partner. For four years he had absolutely no connection with the editorial policy of his magazine, but after the Peace Conference he declined to lend his support to the anti-Japanese agitation that was then very rapidly leading to hostilities between his country and Japan.*

Change of Policy

A legitimate difference of opinion over these matters led to the public resignation of his partner from the editorship of the magazine and since that date (March, 1920) its American publisher has endeavored by every means within his power to bring about co-operation instead of hostilities between the two countries. In this he has contributed his part and for this radical change in the policy of the magazine, it was boycotted and penalized in business and its owner maligned, slandered and insulted by the clique whose propaganda was defeated by his opposition. Foremost amongst these detractors of THE FAR EASTERN REVIEW and its owner has been *The Japan Chronicle*, whose editor, always keeping safely within the law of libel, periodically goes out of his way to insult him for his frank and outspoken presentation of the Japanese point of view. These personal attacks however do not interest the readers of *The Osaka Mainichi* further than to explain the animus behind the insults and the reason for their periodic appearance in the editorial columns of *The Japan Chronicle*. It is, however, a matter of very great concern and vital importance to every intelligent Japanese to understand clearly the anti-Japanese sentiment cleverly hidden behind this latest insult to the Publisher of THE FAR EASTERN REVIEW.

For the past few years a most bitter anti-Japanese campaign has been waged by the Bombay Mill Owners' Association to strengthen its appeal to the Indian Government for the repeal of the Cotton Excise Tax, but when this object was attained early this year, the campaign was renewed with redoubled violence in order to influence the Indian Government to abrogate the Indo-Japanese Trade Convention and to impose a prohibitive and discriminatory import tariff on Japanese cotton goods.

Campaign against Japan

This campaign has been accompanied by slander, insult, injury and a contemptuous disregard for the facts surrounding the Japanese cotton industry courteously and modestly advanced by the Japanese Cotton Spinners' Association in a patriotic effort to defend the international standing of Japan and protect its trade from disaster. This anti-Japanese campaign culminated early this year by an open threat on the part of the Bombay Mill Owners' Association and its newspaper supporters, to invoke an international boycott of Japanese goods and bring down upon Japan the punishment of the League of Nations for her delay in ratifying the Washington Labor Regulations, when none of the great European industrial nations had ratified that Convention or shown any disposition or inclination to do so. Should this campaign succeed, even in part, the Indian market for Japan's cotton goods will be lost and she will then face a determined effort to oust her from East Africa, Egypt and the Near East.

Many of the newspaper references to the controversy appearing in the British press, were printed under the caption of "Japan's Unfair Competition" or "Japan's Sweated Labor," a statement tending to create and confirm the idea that Japan is unscrupulous in her international commercial dealings.

The Publisher of THE FAR EASTERN REVIEW, then in Europe convalescing from a severe illness, determined to visit India and Egypt and ascertain on the ground the full facts surrounding the controversy, but before starting on the trip he examined carefully the files of the foreign edited newspapers published in Japan and was surprised to find that they contained no reference to such a vital and important subject.

"Chronicle" Should Know

Now, *The Japan Chronicle*, as evidenced in the slanderous editorial at the head of this article, must receive amongst its exchanges the leading Indian and British newspapers, so its editor cannot plead ignorance or extenuating circumstances to excuse his indifference to such a widely advertised campaign to blacken the character of Japan and destroy her textile export trade. By all the recognized ethics of journalism it devolved upon this British-owned and edited newspaper deriving its support from Japanese firms, to take the lead in presenting their side of the case, even when in so doing its editor might not be in sympathy with it. The fact that he completely ignored it and made no effort to defend the interests which enables him to exist, constitutes a gross betrayal of these interests.

This publisher and editor of a newspaper, obligated by all the laws of common decency to faithfully present the Japanese viewpoint could not say one word in defense of Japan, but when an independent American writer presents the facts, he opens the columns of *The Japan Chronicle*, not to strengthen Japan's case, but to insult the American for going out of his way to ascertain the truth, and to warn the Japanese against him.

The series of articles on "Bombay's Attack on Japanese Cotton Goods," appearing in the September Number of THE FAR EASTERN REVIEW, bristled with conclusions open to fair discussion, but these are overshadowed by the facts of the grave menace which undeniably confronts Japan's export trade. In order to emphasize the gravity of the betrayal of Japanese interests by the Editor of *The Japan Chronicle*, I may say that two weeks ago in company with Mr. Funatsu and a secretary of the Japan Cotton Spinners' Association, I visited the Kanebo spinning mill at Hyogo and after inspecting the plant and the dormitories, the Manager presented me with a handsome silk-bound booklet containing illustrations of the various Kanegafuchi Spinning Mills and its Employee's Welfare Work. This book bears the printer's mark of *The Japan Chronicle*, and I was informed by the Manager that I could apply to that newspaper for the original photographs or the half-tone blocks in case I desired to use them.

Proof of Humane Treatment

The illustrations in the Employee's Welfare Section of this book, in themselves, constitute a powerful and convincing argument in refutation of the baseless charges brought against the Japanese cotton mill owners by the Bombay Association; proof positive of the humane treatment and kindly consideration accorded the Japanese female mill-worker. Had the *Japan Chronicle* been loyal to the interests of those Japanese concerns whose support enables it to continue in business, it would long ago have devoted space in its pages to the publication of the facts surrounding the actual conditions in the Japanese cotton mills and strengthened its editorial remarks by inserting the illustrations of the Kanegafuchi Welfare Work from the blocks reposing in its own godown. The mere publication of these blocks in a British-owned and edited newspaper in Japan would have effectively counteracted and defeated the anti-Japanese campaign directed from Bombay.

It is perhaps true that THE FAR EASTERN REVIEW has unintentionally done an injustice to the Parsee community as a whole by using the word "Parsee" as symbolic of Industrial Bombay, and in so far as he has wounded the sensibilities of any member of that sect, he makes all due apologies for an editorial license fully warranted by the facts. For, it is a fact that the Parsees dominate the financial, commercial and industrial life of Bombay and that a few Parsee families and their intimate friends control the cotton mill industry of that city. Every reference to the Parsees that the writer in *The Japan Chronicle* has taken exception to, were extracted almost word for word from the old histories of Bombay and from current books on India by authoritative British authors.

Some Generosity of Parsees

It is also a fact that the Parsee millionaires have very generously contributed from their surplus wealth for erecting and endowing charitable institutions in Bombay for the benefit of their own sect, and in some notable instances for the general welfare. No one who reads the publicity about that city is permitted to escape this truth, but the writer contends, that worthy as these monuments to their large-heartedness are, the first duty of these millionaire mill-owners was to devote their surplus wealth to relieving the living and working conditions of those unfortunates from whose underpaid labor and misery has been extracted the huge profits which have made these philanthropics possible. The evidence as I gathered it in Bombay, is, that to date only two millowners (and these to their credit, are Parsees) have instituted welfare work in the mills under their management, driven to it by the pressure of a public opinion outraged at the callous indifference displayed by the mill-owners for the welfare of their workers.

The editor of THE FAR EASTERN REVIEW has not ignorantly abused or slandered the Parsee community by using their name as synonymous with Industrial Bombay. He was most careful to get his facts right and if the Parsee community is entitled to all the credit for most every good feature in Bombay, and a few of its wealthiest families control the mill-industry of that city, it must also bear the burden of criticism in any discussion of the intolerable and inhuman treatment accorded the unfortunate-no-caste worker.

Bombay Mill Owners' Plan

There is very little difference between the words cunning and astuteness and the charge of " unblushing effrontery " is fully proven by the brazen proposition of the Bombay Mill Owners' Association to the Government of India for the appointment of a stuffed committee to fix the prohibitive and discriminatory import tariff on Japanese cotton goods, a project so amazing that it shocked the finer sensibilities of the British authorities who were forced to administer a stern rebuke.

The Parsee gentleman who writes under the initials of J.R.G. and the Editor of *The Japan Chronicle*, overlook altogether that the abuse and slander attached to employing the word " Parsee " in connection with Bombay is mild indeed compared with the long drawn-out campaign of vilification waged against Japan by an Association dominated by Parsee capitalists and presided over by one of its most prominent members. Notwithstanding the justification, the Parsee gentleman is nevertheless right in resenting the coupling of the name in a manner that will bring reproach to his sect as a whole.

But this frank amend does not and cannot cloud the real issue or does it in any way alter the facts. The real beneficiaries of the slanderous campaign waged against Japan are the Bombay millowners, and their own textile organ is authority for the statement that the industry is controlled by a few Parsee families and their intimate friends.

Unpalatable Facts Exist

If the spokesmen for this Parsee-controlled industry without being challenged or rebuked can carry on for years a slanderous and vituperative campaign against Japan, they must expect at some stage of the controversy to have their own feelings ruffled by the publication of unpalatable facts about themselves from the pen of an independent writer. For the past four years the Bombay Mill Owners' Association have been retorting to the Japanese courteous statements in a most insulting manner. These Japanese business men residing in Bombay, depending upon the good-will of the community for the success of their trade, are debarred from answering these attacks in a tone which might injure their standing in the community. Handicapped in the controversy by these conditions and by their limited command of forcible English, they have had to gracefully submit to the insults heaped upon them and their country by men skilled in the art of invective and misrepresentation. For the first time since they started their anti-Japanese campaign these men have received a well merited dose of their own medicine. I may have unintentionally wounded the feelings of the Parsee sect as a whole and make all honorable amends, but it will becomes the Editor of *The Japan Chronicle* to stand forth as the champion of the Parsees and close his eyes and the columns of his newspaper to the slanderous attacks upon Japan and the campaign to invoke an international boycott of her goods. The fact that he has done so, is equivalent to stabbing Japan in the back, a betrayal of the interests that every journalistic ethic and law of common honesty and decency laid upon him.

GEO. BRONSON REA,
Publisher and Editor of THE FAR EASTERN
REVIEW, Osaka, October 18, 1926.

"Japan Chronicle's" Fear of its Own Shadow

(*Osaka Mainichi, October 21, 1926.*)

It is exceedingly amusing to note that, in trying to excuse itself from the charge made by us in our editorial of October 21 that the foreign edited newspaper in this country is generally averse to giving fair play in the presentation of the Japanese case in the matter of her foreign commerce and industrial conditions, *The Japan Chronicle* says in its issue of October 22 that it is surprised at being called " our enemy " by us. We courteously invite the editor of *The Japan Chronicle* to read once more our editorial of October 21, in which we never mentioned his paper as our enemy, as the reperusal of the contests will clearly show.

In the paragraph preceding the one from which the editor of *The Japan Chronicle* quotes the words " our enemy " used by us, we said : " The heavy artillery of an enemy has for over a year been battering down Japan's prestige and reputation as an industrial and commercial nation seeking a market for its products and merchandise." This obviously referred to the Indian press that during the past one and a half years has been championing a most extensive anti-Japanese agitation with such sensational slogans as " Japan's unfair competition," " Japan's sweated labor," etc., even to the extent that it advocated the abrogation of the Indo-Japanese commercial treaty. It is this avowed enemy of Japan's legitimate interests that we have made up to fight, and not our contemporary in Kobe. The editor of *The Japan Chronicle* may rest assured that the *Osaka Maincichi*, English Edition, will not dare to belittle itself by selecting one particular foreign newspaper in this country as its enemy.

Another point must be made clear in this connection. We never claimed that a foreign edited newspaper in this country should "set forth the official view of the moment on commercial policy," as we are alleged to have said. Here again we desire the busy editor of our Kobe contemporary to take the little trouble of going over our editorial of October 21 once more. After mentioning the " false statements and misrepresentations of conditions in Japan in order to create a wrong idea of her commercial morality and hold her up to the scorn and reprobation of the world," we said that Japan " has the right to demand Fair Play, by a full exposition of her side of the case, reinforced by a truthful presentation of actual conditions." Now this is entirely a different proposition from demanding any newspaper " to set forth the official view of the moment on commercial policy." Only purposeful twisting of meaning or reading an entirely different sense into another's remarks can create such an absurd distortion as this.

In this last mentioned point as well as in the charge that we have called *The Japan Chronicle* " our enemy," we are at a loss to understand the psychology of the editor of that paper, who, to all intents, seems to us to be obsessed with a fear of his own shadow, for he is surprised to be called enemy when he is not so called and further refuses to do a thing which he is not asked to do. We hope that *The Japan Chronicle* is not the owner of a bad conscience, which often is responsible for ridiculous nightmares.

* * *

(*Japan Chronicle, October 21, 1926.*)

The *Osaka Mainichi* yesterday in its near-English edition, got well ahead of the other papers by announcing the death of Mr. Hioki. Why it did this, when its Japanese edition merely said that he was critically ill, can only be guessed. It is an unpleasant sort of way of purveying news, however.

* * *

(*Japan Chronicle, October 24, 1926.*)

The *Mainichi* assures us that it did not mean the *Chronicle* when it spoke of " our enemy." Apparently it was the Bombay papers that it referred to--and especially the *Chronicle* of that city. As its friend Mr. Rea says, Japan lacks advocates adept in expressing themselves in English—and he might have included himself in that category without fear of contradiction.

A Reply to Mr. G. B. Rea

(*Osaka Mainichi, October 24, 1926.*)

To the Editor of the *Osaka Mainichi*, English Edition.

Sir,—I have perused Mr. Rea's recent article in your paper and see the necessity of a reply. I shall, therefore, thank you to give publication to the following in your columns.

Let me say in the very beginning that I am neither anti-Japanese, anti-British nor even anti-Mr. Rea, and that does not deprive me (as anybody else) of my right of fair criticism and fair defence of my community in such a remote part of the Far East. Fair criticism is not an unwelcome thing, but a desirable thing instead.

Leaving aside all the other parts of the article, as a layman should, I shall only dwell upon the concluding part wherein Mr. Rea deals with the inability of Japanese business men in Bombay to give expression to their views in defiance of Bombay Millowners' attacks. The moral of Mr. Rea's last paragraph comes to this, that, had it not been for his onslaughts on the Parsee Millowners in his Shanghai monthly paper there was little chance of the Japanese voice being represented vigorously. This is perhaps tantamount to saying that Japan can ill afford to lose such a champion of her cause.

Absurd Idea

To venture to believe that even a few amongst the Japanese business men in Bombay or India, do not know sufficient English to launch a protest is absurd in itself, and even if we take it for granted that they do not know, Japan would derive greater advantage by her direct assaults from Osaka—the center of Japanese Spinning Industry—than by the voice of a third party and that too from such a remote place as Shanghai. Moreover, it would have served Mr. Rea's purpose well if he had contributed his articles there and then in the Indian press when he was in India instead of giving them publication in Shanghai afterwards. Anyhow, in my opinion, Mr. Rea's claim of attempting to silence the Bombay Millowners by means of his Shanghai monthly amounts to forgetting the facts :—

(1) That there exists in Japan such a formidable body as the Japan Cotton Spinners' Association with such intellectual brains as Mr. Sanji Muto and some others. Mr. Muto is not only a millowner but also a politician of great repute in the country. The Association, with all its technical and statistical knowledge, can better handle the subject than any outsider.

Two Strong Organs

(2) That there are two influential organs of Japan's voice, published in English. *The Osaka Manichi* and *The Japan Times*. *The Mainchi* is taking great pains to publish its Overseas Numbers from time to time with a view to giving the people abroad an idea of Japan's advancement in industry and commerce and drawing the attention of the Japanese to markets abroad. Its prize-giving for essays on different topics is also not less enterprizing. Not only that, but the paper has taken up most commendably the cause of the unfortunate, age-long dumb, nearly 50,000 white slaves of the country in spite of the vigorous resistance offered by brothel-keepers throughout the country. Again, commercial and industrial matters are nearly daily appearing in these two English papers. Then, is it not befitting to suppose that they are more able to represent and defend their country than any outside organ ?

(3) That there are not a few Japanese business men and politicians well-versed in matters, both commercial and industrial, relating to their country.

(4) That there is the Japanese Consulate in Bombay which cannot be regarded as unable to guard Japanese interests there.

Perhaps Mr. Rea may be making a mistake of over-estimating his knowledge in thinking that all the above organs of Japanese voice are not able enough to clearly voice their sentiments and views. And, why the modesty of refraining from reasonable attacks in Japanese press (published in English) if it really thinks that Bombay's attacks are arrogant and far from the truth about Japan. The Japanese press is as well entitled to a formidable defence of its country against foreign attacks.

Yours faithfully,

J. R. G.

Osaka, October 23, 1926.

* * *

A Harpooned Walrus

(*Osaka Mainichi, October 24, 1926.*)

The Japan Chronicle declares that it represents the foreign community in this country and is not called upon to present Japan's side in any political or commercial controversy. This admission will not be lost on the thinking people of Japan who would also like to be informed if, in representing the foreign community, *The Japan Chronicle* faithfully reflects its opinion. If it does, then the foreign community is placed in a most embarrassing position ; for, if *The Japan Chronicle* is not obligated by any sense of loyalty or journalistic duty to defend the interests of Japan, it is bound by the code of hospitality and good-breeding to refrain from insulting those engaged in discharging this duty.

The absence of any foreign medium that could be relied upon at all times faithfully and sympathetically to present the national viewpoint, determined patriotic Japanese to create their own organs of public opinion. As a result, *The Osaka Mainichi* and *Tokyo Nichi Nichi*, English Edition and *The Japan Times* are endeavoring to defend and interpret Japanese policies to the world.

Not content with maligning the friends of Japan the editor of *The Japan Chronicle* takes special delight in insulting these Japanese owned and edited English-language newspapers by sneeringly referring to them as "the near-English Edition of *The Osaka Mainichi* or, the " Foreign Office Near-English organ."

Now we do not know what connection, if any, exists between the Foreign Office and our Japanese owned and edited Tokyo contemporary, but whatever that link may be, it can be taken for granted that it is intended for the best interests of the Japanese people. It is an unpardonable impertinence for any foreign newspaper published in Japan to question the legitimacy of such a connection or hold up the Foreign Office to ridicule because of any steps it may deem wise and proper in order to be sure that the national viewpoint be presented accurately and sympathetically.

If our Foreign Office has been obliged through the hostility, neutrality, or independence of the foreign-owned English language press in this country, to take into its confidence a newspaper owned by a Japanese corporation, it is adding insult to injury for *The Japan Chronicle* to indulge in sniggering and insulting remarks calculated to impair its usefulness. Mutual good-will and understanding between foreign residents and the people of this country will not be advanced when the Kobe exponent of foreign opinion descends to such reprehensible tactics in order to injure and impair the usefulness of its Japanese contemporaries and bring ridicule upon the Foreign Office.

* * *

(*Japan Chronicle, October 25, 1926.*)

We have no wish to enter into any controversy with the *Mainichi*, which tends to become puerile ; besides, its assumptions are so incomprehensible that it is impossible to understand what it is driving at. It expresses great indignation that the *Chronicle* admits that it does not exist for Japanese propaganda, but only as a newspaper. But it may be pointed out that by endeavoring to get at the truth of the subjects with which it deals, the *Chronicle* does much more in the way of promoting good understanding than can any paper which seeks to tell not the truth but what it thinks it would be good for people to believe. As for representing the Japanese point of view, however, there are several columns almost every day which consist of translations of Japanese opinion—either expressed through the medium of the Press or on the political platform. We are at a loss to understand how better a foreign paper can represent Japanese opinion than this. Foreigners have been known to expound in a literary disguise what they conceive to be Japanese opinion, and it has always resulted in an increase of ill-feeling. We believe that the *Chronicle* has done Japan far better service than any of the propaganda sheets which constantly betray their own insincerity. The *Mainichi* itself has yielded to the temptation to publish anti-foreign matter in its Japanese columns and to keep it carefully out of its English columns. This is not the way to give an interpretation of Japanese thought.

* * *

Indian Steel or National Defense

By George Bronson Rea

(*Nichi Nichi, Osaka, October 27, 1926*).

Japan is passing through a period of post-war industrial reconstruction and tariff readjustment in which the question of national defense becomes in some instances more important than the immediate gains of a few industrialists. The question of whether she is to sacrifice or maintain her present commanding position, especially in her own sphere, is so clearly included in the controversy over the iron and steel tariff that her leaders should analyze closely the arguments of both sides and as carefully scrutinize all foreign expressions of opinion on such a vital subject, particularly the propaganda of those interested in relegating Japan to a position of inferiority in Asiatic affairs.

The Japan Chronicle has very forcibly placed itself on record against any raising of the tariff on pig-iron that would interfere with the profitable trade in that commodity with India. Its latest editorial reference to this subject concludes with the following words :

> " Elsewhere we deal with an attack on the *Chronicle* by the *Mainichi* and one of its friends, in which a great deal is said about the attempt on the part of the Indian cotton manufacturers to keep Japanese cotton out of India. The peace of the world was threatened ! Apparently the peace of the world is expected to survive this attempt to prevent any further importation of Indian pig-iron. But that is different of course—except that thereby Japan is represented as being the more aggressive country. However, if it were to Japan's profit not to import the Indian iron, it would be absurd to say that she must ; but the curious position is that the users of the Indian pig can make a profit without protection, and as Japan has no particular ores of her own this is surely the better way to build up such an iron and steel industry as in the nature of things she can do, instead of nurturing a feeble industry which must collapse as soon as the tax on it is withdrawn."

From a free-trade point of view the argument is unassailable. But what does it mean ? What is behind it ? Before any decision is taken by the Japanese authorities that may reduce the nation to a state of dependence on India for pig-iron, it is highly important that all the facts be clearly stated. What then is the truth concealed behind this free-trade barrage ? Japanese arguments for and against the proposed new iron and steel tariff have been fully set forth in the columns of *The Osaka Mainichi*, so let us now glance at the other side of the controversy as revealed by a study of conditions in the Indian iron and steel industry. Even here it is not necessary to probe deeply ; a very brief presentation of the facts are sufficient to arrive at a conclusion.

Facts Lying Behind

What are these facts ? First ; during the progress of the Great War, when the lines of communication between India and Europe were interrupted by submarines, a huge iron and steel plant was erected at Jamshedpur in India by the Tata Iron and Steel Company, Ltd. The output from these works enabled the British to carry on successfully their campaign in Mesopotamia and the Near East, furnishing all the rails, bridges and rolling stock for the strategic railways, and ammunition for the artillery. It is frankly admitted by every British authority that the Jamshedpur Works won the war for Great Britain in the Near East. These works have since become a vitally essential part of the Imperial Defense Scheme, imperative for the preservation of British military supremacy in India, Iraq, Persia, the Near East and the South Seas. All military plans for the defense of the British Empire east of Suez are based on the continued operation of the Jamshedpur Iron and Steel Works at a state of high efficiency.

Point two, is the Singapore Base. The establishment of this naval and aircraft base is openly aimed at Japan. There is no need to elaborate this point. Behind Singapore stands the Jamshedpur Iron and Steel Works, without which the efficiency of the naval base would be so seriously impaired as to compel its abandonment. The question then would seem to be very simple. Is Japan justified in contributing to the maintenance of the key industry to Great Britain's strategic supremacy in Asia, when by so doing, she rivets upon herself the chains which maintain her in a position of military inferiority ?

Now, let us get at the facts. Owing to the inability of the Tata Iron and Steel Company to compete with European steel manufacturers in the post-war struggle for trade, it appealed to the Government of India for discriminatory protection against German and Belgium steel, but after a careful examination of the treaties, it was found that the French Commercial Convention of 1903 was an absolute bar to any scheme to impose discriminatory duties against any particular country, without handing the trade over to France. The Tariff Board's recommendations for higher protective duties were set aside by the government as laying too heavy a burden on the consumer and a bill was drawn up and passed by the Assembly providing for a temporary bounty on steel ingots manufactured by Indian steel mills from Indian pig-iron at the rate of 20 rupees a ton on 70 per cent. of the gross weight of the total production.

Figures Show

What happened when the Tata Iron and Steel Works received this special protection ? Did it reduce the cost of pig-iron or steel to the Indian consumer ? Did the Indian iron and steel mills develop their own home market under this protection ? They did not. They immediately set out to build up an export trade at the expense of the home market. The evidence as presented in the Indian newspapers shows that the cost of pig-iron production at the Tata Works is 27 rupees per ton. The export price of the same commodity to Japan and America was 38-39 rupees per ton while the Indian foundries, the consumers who were to be benefitted by the bounty, were charged 68 rupees per ton ! When the Tata Iron and Steel Company appealed early this year for an extension of the bounty over a period of ten years in order to place the steel industry on a permanent basis, the Indian manufacturers who were being gouged to the extent of nearly 150 per cent. over the cost of production, violently protested against any further bounty unless the prices of pig-iron were lowered to a point equivalent to, or at most, five to ten per cent. above the export rate. In commercial parlance, the Indian export of pig-iron was dumping in the worst acceptance of the phrase, and in view of the increasing importations into the United States, the steel manufacturers of that country vigorously protested to their government against any further importations which menaced their own industry.

Japanese Market Essential

Out of a total production in 1924 of 872,000 tons of pig-iron, India exported 341,000 tons, of which Japan took one half, or 171,000 tons. The Japanese market has therefore become absolutely essential to the profitable operation of India's steel industry. It is better, perhaps, to let India speak for herself on this highly important matter. At the annual meeting of the Associated Chambers of Commerce of India held early this year at Calcutta, Mr. V. A. Grantham, retiring president of the Bombay Chamber, delivered an impassioned speech urging the immediate abrogation of the Indo-Japanese Trade Convention and the application of a discriminatory import duty on Japanese yarns and cloths to even up the advantage enjoyed by Japan in working nightshifts in her cotton mills. After outlining the situation from the Bombay viewpoint, he concluded by saying :

> " So the issue as far as we are concerned, is narrowed down to this one question, viz., do we wish to denounce the Japanese Convention or do we not ? "
>
> " Let us consider the issue involved, and in order that you may do so I would ask you to study the trade figures for the last three years. On the import side you will find nothing but manufactured goods, and out of the total about 60 per cent are cotton manufactures ; and to gain a proper appreciation of the seriousness of the problem let me emphasize that in 1924-25 this meant Rs. 10 crores worth of cotton manufactures out of total imports of Rs. 17 crores.
>
> " On the export side, on the other hand, it will be found that the bulk consists of raw material, and that over 80 per cent consists of raw cotton. The only two exported manufactures of importance are gunny bags and pig-iron, and, as the former is a monopoly, the latter is the only one which need give us a moment's consideration. The exports of pig-iron amount to just Rs. 1 crore annually, and it is clear that our local steel industry relies largely on Japan as a market for its pig-iron. Equally clearly, Japan with her own steel industries, does not welcome the import of cheap Indian pig-iron and would doubtless be glad of an opportunity to erect a tariff wall against the Indian article.
>
> " And so we come to the conclusion of the problem. Clearly it is one of expediency. Which will pay India best—to have the convention, preserve her pig-iron export trade, and avoid a tariff war, or to denounce the convention and save her cotton mill industry. The figures show, I think, that it will be convenient for her to denounce the convention. . . . It is inconceivable that Japan should injure herself by putting a retaliatory duty on raw cotton. So what have we to fear from a denouncement of the convention ? On the other hand, we have much to gain, for there is no reason why India should not manufacture the bulk of what she imports from Japan, if she is not subjected to unfair competition."

Another Frank Confession

The Japanese should ponder over this very frank exposition of India's case and they might with profit also read its meaning in the light of a statement by Mr. Thomas M. Ainscough in his annual report on British trade in India. Emphasizing the heavy balance of trade in favor of India in the case of Italy, he says ;

> "Although in the case of countries where there is a heavy balance of trade in favor of India, the account is adjusted by triangular finance using exchange on London, there is a growing tendency all over the world for a country to purchase its imports from those countries which are the most important customers for its own produce. It would not be surprising, therefore, if Italian exports to India tended to expand."

Now the Italian Government has not ratified the Washington Labor Regulations but has decreed a nine-hour working day, yet we hear no denunciations from the Bombay Mill Owners' Association for this rejection of a convention which stands in the way of Italy's industrial prosperity. It is clear, however, that a principle which applies to Italy does not extend to Japan, for it is evident that the Indian leaders of commerce do not intend to reciprocate Japan's huge purchases of Indian raw materials by purchasing Japanese manufactured goods. If what Mr. Grantham says is to be taken seriously, only where it is to their advantage is such a trade to be carried on, and now that Japan is dependent upon India for raw cotton and cheap pig-iron, they intend to cut off her ability to pay for these by a fair exchange of manufactured goods. But let us get back to the iron and steel situation.

Indian Army's Stand

The frank admission of the president of the Bombay Chamber of Commerce that the Indian steel industry is now dependent upon Japan as a market for its pig-iron must also be read in connection with another highly important statement advanced in support of a further extension of the bounty to the Tata Iron and Steel Works. As pointed out, the military aspect of the Indian steel industry cannot be ignored and in carrying through the policy of building up that industry, the Indian Army Department in a recent communication to the Tariff Board said ;

> "If the steel industry, for any reason, ceased to function it would be necessary for Army Reserves to be largely increased, or alternatively for plant to be provided to meet war requirements. Such plant would stand idle in peace."

In plain, words, this official statement says that unless the Government of India subsidizes the Indian steel industry as a vital part of its defense system, the Army must increase its strength at considerable cost to the tax-payer or maintain a steel plant out of its own appropriation.

Now it seems clear from these facts that this highly subsidized Indian steel industry instead of honestly endeavoring to develop its own home market, is gouging the Indian consumers of pig-iron in order to build up an export trade with Japan. There is a market in India for every ton of pig-iron that can be produced in that country if sold at the same price that is now being charged for export cargoes. The evidence is clearly shown in Indian newspapers that an extensive and profitable export trade in iron utensils and other commodities has been killed by the high price of pig-iron exacted from the native foundries. From all outward appearances, it would seem that the Indian authorities have closed their eyes to this imposition on the domestic trade in order that Japan may become more and more dependent upon India for her supplies of pig-iron.

Gist of Situation

What lies behind this ? The military importance of the Jamshedpur steel works and its direct connection with the Singapore Base in the scheme of British Imperial defense is too clear to be ignored by Japan. The profitable working of the Jamshedpur works is admitted to be dependent upon the export of pig-iron to Japan. It follows then, that as Japan increases her purchases of Indian pig-iron to the point where the Indian steel industry is firmly established on a profitable basis, and as Japan becomes more and more dependent upon India for her supplies of pig-iron—at a price made possible only by taxing the Indian consumer—she is simply contributing to the building up of a formidable weapon designed to hold her in a position of military inferiority.

Stripped of all superfluous free-trade or protection arguments, the issue confronting Japan is clearly one of national defense. If the Government of Japan decides that the industrial prosperity of the nation is of higher importance at this time than its military position, whatever step is taken should be made with a full knowledge of all the facts.

The Cotton Question

(*Japan Chronicle, October 26, 1926.*)

Owing to the activities of one of Japan's "independent" propagandists, there has been some airing of the fact that the Bombay cotton men have been demanding duties to protect them from Japanese competition, and it is alleged that in order to accomplish this end they have indulged in a "campaign of slander and vilification" against Japan, and so forth. Such a campaign would hardly influence the Government of India, however much it might help in keeping the agitation warm, and we notice in the *Bombay Chronicle*, which has given the subject the largest amount of publicity, an article by Mr. K. G. Mehta, apparently one of those Parsis whom Mr. G. B. Rea loves to insult, in which the writer, after mentioning the factors in the Japanese competition, goes on to make a much longer list of difficulties created by British and Indian conditions. The complaints against Japan are that she is still working her mills two shifts, notwithstanding the Washington convention, that the trade is assisted by subsidies, and that the depreciation in Japan's currency (now a thing of the past) assists the Japanese exports. Concerning the other causes of depression, Mr. Mehta mentions the Bombay system of managing agency (a complaint thirty years old), neglect of their own interests by the shareholders, migratory character of labor and failure to imporve labor by showing any care for health and amusement of the workers, and he finishes with a list of the ways in which the trade is bungled. There is certainly no lack of introspection in the Indian attitude ; the things of which Mr. Mehta complains have been the subject of diatribes for many years. The trouble is partly climatic. Men want to make money and clear out, and larger interests are subordinated to that desire. But this has nothing to do with whether it would be right or wrong to protect the Indian industry. If every badly managed industry were refused protection we should be quite a long way along the road to free trade. For instance, the management of the Japanese cotton mills has long been the subject of severe criticism. (As in the case of the Indian mills, there are exceptions to the general rule.) But the Government does not tell them to put their house in order before they can be protected, like Mr. Rea has been telling the Indian mills, on Japan's behalf.

Protection is a thing which is always good for ourselves and always bad for everybody else. Japan is in a very protective mood just now, and is also getting anxious about the Indian demands for import duties on the kinds of goods which Japan supplies in increasing abundance. The Japan Cotton Spinners' Association have recently prepared a counterblast (the third of its kind) for presentation to the Indian Tariff Board. As usual, the Japanese argument against other people's protectionism is the very sincere milk of the word of free trade. It points out that, to be logical, not only the cotton trade but a number of other industries should be protected, and are actually asking for protection. And then it goes on :

> "If a special protection is to be given to all the industries of India, the prices in that country will necessarily rise, to the great annoyance of consumers and the ultimate result will be to bring pressure upon home industries. Under such circumstances it would not be difficult to imagine the fettered position in which India would be placed."

The statement goes on to point out that the piecegoods industry in India is now enjoying an 11 per cent. protection, and that its condition is worse than before, while the spinning industry, with its protection of 5 per cent., is also complaining. But, it says.

> "The trouble with the Indian spinners is that they have failed to take steps for the improvement of their methods of management and have remained idle. Meanwhile the tariff has only helped them to remain in a still worse state of inertia. Really it has contributed towards preventing the betterment of the industry, which is proved by the experience of the Indian spinners during the past ten years. That there are many defects in the Indian methods of managing the cotton spinning industry is a well-known fact, and these defects can by no means be remedied by the protective tariff. They are only aggravated thereby."

It is all eminently sound argument, but comes with a strange ring from such a protectionist quarter ; the very "fettered position" that the cotton spinners fear for India is one from which Japan is suffering very badly, as is evidenced by a table that they give, showing that while in Bombay the index number of prices is only 163 compared with the pre-war 100, in Tokyo it is 212.2. They regard with a pure altruistic fear the prospect of India suffering as Japan is suffering !

It is curious that, while this endeavor is being made to prevent India from increasing the duties, even to the extent of threatening injury to the friendly relations of the peoples, the iron and steel interests in Japan are moving heaven and earth to protect themselves from the Tata and Burn products of India. The ideal that they pursue is the importation of ore from the Tayeh mines (of the big Hanyehping combination on the Yangtse, heavily in debt to Japan, and under contract to pay in ore), and the smelting and conversion in Japan. Lately they obtained a bonus running up to Y.7 per ton on pig-iron smelted in Japan; but the steel-workers want a special protection of their own, and proposed Y.50 per ton. This was too much, but the tariff committee have consented to recommend Y.40. Fears have been expressed that this will rather upset the argument against the protection of the Indian cotton trade and will provide India with an excuse for retaliation; but the plan is going ahead nevertheless. It is somewhat complicated by the Japanese interests in South Manchurian iron; but though Manchurian iron has to pay duty on entering Japan, the Japanese Government-General in Kwantung can (and is going to) budget a bonus on the Manchurian iron. There are always ways round a difficulty.

The effect of the scheme for protecting iron and steel on Japanese industry in general is a matter for considerable anxiety. It must be followed by an upward adjustment of the duties on heavy machinery, if only for the protection of the Japanese machine-making industry. Naturally, something will be added to the cost of every mechanical operation performed. Doubtless the portectionists hope that the increased cost will be so effectually spread that it will not be noticed. However, it is not easy to see how the industries that compete with those of more fortunately situated manufacturers can fail to pay a noticeable penalty.

The natives of India should be deeply touched by the concern for their welfare exhibited by the Japanese spinning masters, and will doubtless wonder why it is that the Japanese iron masters are not at all concerned for the welfare of the poor Indian who digs coal and iron ore. The Cotton Spinners' Association referred to the other trades, besides cotton, which in India were clamouring for protection, and how it would press hard on the country at large if they were all protected. No doubt it spoke from experience, but it invites the retort, "Physician, heal thyself." In any advocacy of protection it is a great mistake to pretend that one is concerned with the welfare of anybody else. It is a purely selfish business, and that is the real reason why altruistic reasons are always found for it. It is always to "maintain the standard of living," to find work for the people—everything in the world but to fill the manufacturer's pocket at the expense of his neighbors. The Bombay millowners are so concerned for the Japanese women who have to work at night that they would like to put them out of work. The Japanese millowners are so concerned for the welfare of the Indians that they cannot bear to see costs rise as a result of protection. It seems to strike neither side that their insincerity is perfectly obvious and stamps their argument as humbug. If there were no other objections than this, the fact that protection cannot be advocated without hypocrisy would be enough to condemn it as an economic policy.

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What is India?

(*Japan Times.*)

I read with some interest the articles from the pen of Mr. George Bronson Rea, re-printed in *The Japan Times.* At one stage of his argument Mr. Rea waxed so wroth with righteous—so it would seem—indignation that he forgot he was talking yarn and cotton and subsidies and factory hours and female labor and Parsee 'narikin' and levelled a terrible broadside at India. "What is India?" he demanded to know, and then "Who is India?"

I beg to answer his question and trust it will of some use to him. In doing so, I will only quote from others :—

The Hon. Mr. F. W. Beyers, K.C., Minister of Mines and Industries, Union of South Africa: "Whatever legislation may be passed (in regard to Indian immigrants in South Africa) and I hope it will be just and fair, the people of South Africa never had, and never have, any idea of placing a mark of inferiority or a stigma on the Indians or on India." India must be some one, then.

The Earl of Birkenhead: "The world fully realises and values the civilizations and culture of India and believes that her status is becoming increasingly important as she assimilates modern civilization to her ancient cultures." India must be somebody.

Sir Charles Munro, late commander-in-chief of the British forces in India: "In practically all quarters where the Empire was at war, the Indian soldier was present, fighting with a fortitude and determination which is so characteristic of her history." The same can't be said of Hibernia.

Mr. Edgar Wallace: "India has easily survived the discredit some have tried to cast upon her. To-day, her future is certain and is a very bright one indeed." Who, indeed, is India?

His Majesty The King: "I have watched with understanding and sympathy the desire of India for political freedom and believe that there will be once again a renaissance of Indian culture, civilization and art."

And as for Bombay: Sir Valentine Chirol wrote: "Bombay is the finest flower born of the fruitful contact between East and West."

Verb. Sap., though I could cite many more tributes.

ALFRED E. PIERES.

Yokohama, October 21.

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India and League

(*Japan Times, October 27.*)

The Editor, *The Japan Times,* Sir: Mr. Pieres takes only a part of Mr. Rea's question, which is really, "what qualifies India to be entitled to a seat in the League?" and he then cites several tributes to India, some of them only political claptrap; the first for instance, when one considers that the people of S. Africa requested the Imperial sanction to a law retricting the natives of the country from attaining the status of an artisan.

Sir Charles Munro's is a genuine tribute, but the value is somewhat marred by the reference to Hibernia (I presume Mr. Pieres' own). The regrettable things that occurred in Hibernia had it's parallels in India, the Indian troops mutinied in Singapore.

Sir Valentine Chirol evidently refers to Bombay as a city and port. Mr. Rea also quotes Sir Valentine.

Mr. Rea's articles finish up with; "By all means take the issue to the League or the International Labor Conference and be sure that a plain spoken American be invited to take part in the debate."

Presuming the plain spoken American took Mr. Rea's line of argument, how would the American answer an Indian representative's question; Does the U.S.A. accord equal treatment to all U.S.A. citizens?

ENGLISHMAN.

Yokohama, October 23, 1926.

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What is India?

(*Japan Times, October 29, 1926*)

The Editor, The Japan Times, Sir: Mr. Alfred E. Pieres of Yokohama, who takes exception to the articles on India published in *The Japan Times* and the September number of THE FAR EASTERN REVIEW, either misses the point or does not care to see it. What is India? In answer, he quotes from several high authorities to prove how great she is. He is right. India is a great and wonderful country, but great and wonderful as she is, the inescapable truth still remains that the higher castes of that country deny to 60,000,000 of their own people, the most elementary rights of human beings.

India's status in the League of Nations is none too secure and but for the fact that she was a signatory to the Versailles Treaty she would not have become an original member of the League. In fact, she was the only original member which was not self-governing and her presence in this body of independent and sovereign states is looked at askance by the other members.

When India's industrial leaders and organs of public opinion, supported by the most powerful newspaper in England, openly threaten to invoke an international boycott on Japanese goods and bring down upon Japan the punishment of the League, because the Japanese Government acting within its acknowledged rights, takes its own time in giving effect to the Washington Labor Convention, they invite a critical examination of India's right to membership in the League. If this right is ever seriously challenged —and challenged it will be—if the United States should change its mind and ask for admission—it would precipitate a crisis in which India would either have to withdraw from the League or British dominance in her governmental affairs would have to end. As a matter of fact, the question has already been agitated by the native members of the Council of State in an effort to have the Indian Delegation in the League headed by an Indian.

As to South Africa, the facts speak for themselves. The Color Bar Act is now a law. The Class Areas Act for the segregation of the Indians, is held up pending the outcome of a round-table conference. The emphatic utterances of General Hertzog, premier of South Africa, on these matters in connection with his attitude towards the Empire, would seem to indicate that this Dominion will brook no outside interference in its domestic affairs. The Class Areas Act is simply translating into South African law the fundamental principle which has governed Indian social relations for ages. The Indian in South Africa will receive under this law the same treatment that he is accustomed to receive at home. Naturally, in the eyes of the framers of the law, it is just and fair. In fact, nothing could be fairer.

GEO. BRONSON REA.

* * *

A Reply to George Bronson Rea

(Japan Times, November 1, 1926)

The Editor, *The Japan Times*, Sir: Where does Mr. Rea get the idea that there are 60,000,000 people in India "to whom the most elementary rights of human beings are denied"? It is true there is a large number of unfortunate people of the submerged classes who have been grossly impeded in their progress through laws of caste and priestcraft. But, to say that the situation is still the same is nonsense. There is every effort now being made, both by the higher castes (which I, personally, believe in about as little as I do of the alleged Nordic's superiority) as well as by the Government. But what has this got to do with tariff rates and fair or unfair competition? These folks are not press-ganged, so to say, to make profits for the mill-owners as is, alas, very often the case with the innocent country girls who have been seduced into factories in this land.

Mr. Rea talks of "India's industrial leaders and organs of public opinion, supported by the most powerful newspaper in England threatening to invoke a boycott of Japanese goods." A friend has just sent to me an article on the Textile Industry in India (for Calcutta is concerned too, even though the pinch of Japanese competition has not been felt there as yet). There it is distinctly said:

"We do not want to exclude Japanese goods from India; but we want them not to kill our domestic industries and starve our workmen, but to have fair competition."

What is there so terribly heinous about such an attitude and policy? Mr. Rea has been "seeing things," and has come back to the Far East with a new bogey of Great Britain and India hatching a diabolical plot to ruin Japan's trade with India. The very idea is preposterous. But, it is, unfortunately, only too true that just this sort of drivel is swallowed up by some Japanese wholesale.

The idea of the British and India Governments refusing to sell cotton to Japan is absurd. Such things are not lightly done. Anyway, even if it was done, there is a very good precedent and that from Mr. Rea's own country too. I have heard that when the Japanese troops were in Siberia and at first there was no sign of their pulling out, President Wilson issued orders that no Japanese silk should be permitted to land in U. S. ports and that not a count of cotton should be shipped to Japan. It was an economic threat and is said to have had its effect. My only reason for citing it is that it is a bit of "open secret" history.

I am surprised that the Japanese have been so driven to desperation by the alleged impending failure of their cotton mills that the services of a non-Japanese had to be enlisted for the purpose of saving Japan's textile trade! The very idea is serio-comic.

The truth about the Bombay mill industry, I am assured by those "in the know" here, is that there have been many failures of cotton mills in which investors have lost everything and that other Indian cotton mills have been hard put to make both ends meet. When matters were probed, it was found out that Japanese competition was too great, largely because the Japanese industry enjoyed the "advantages" of double shifts, bounties, freight rebates and the adventitious advantage of exchange. To counteract this and to put Japanese and Indian mills on an EQUAL footing of competition, it is proposed to impose a "safeguarding" duty. This is exactly what Japan does for goods imported into Japan to protect her own industries. She does more, she also imposes a "protective duty." It is therefore nonsense to talk of discrimination against Japan. And then, how about the hundred per cent. "luxury" tariff?

Some of Mr. Rea's arguments in his long articles which make a brave show are very vulnerable. Not the least absurd was that about statistics on education and money spent for education. Mr. Rea told us (in previous articles in *The Japan Times*) that this country spent Y.460,000,000 annually for education! There could have been no misprint because after the figures denoting the amount of yen, there was within paranthesis the English equivalent of Y.460,000,000, namely (£46,000,000). This alone ought to debar Mr. Rea from proceeding further until he can marshal up his facts and figures more in conformity with truth and commonsense. When a person talks of tariffs and competition and mills and trade and figures and statistics and does not know the approximate amount of that country's national income, he lays his argument and thesis open to doubt. The Education Department is trying to get one-fifth of what Mr. Rea has given them on paper, regularly, and is having quite a time year after year to do so.

If there are trade differences that Japan thinks are unfair, why not put the matter up to the party concerned? Surely, the Japanese and Indians can get together and thresh matters out. Japan has several commercial agents (official) in India who, it is to be presumed, know their business. That would bring about a solution in a manner to benefit both and would be better than to have a new St. George seeking to spear (or is it to cut down?) an *imaginary* dragon.

The International Labor Conference was promoted to benefit all labor in countries already industrialized or on the way to becoming industrialized. Japan signed it—took her own time in finding means to give effect to its provisions—and I, personally, would like to see Japan, as the premier industrial nation of the Orient, give sanction to its provisions. It may mean the weeding out of mushroom plants that crept up during the war-boom, but it would mean, far more a great step on the way the elevate Japan's masses, especially the juvenile and female element that has been responsible for the thirty per cent. dividends that the Kanegafuchi has been paying. Mr. Rea makes a great point that he is championing the cause of Japan and the Japanese people; but, consciously or unconsciously, he is only perpetuating their hard life and playing to the gallery of those investors who want big and speedy dividends on their investments.

Let's face the facts. When the Diet was in session early this year, a petition was presented by the working classes which was one of the most human documents I have yet read. It pleaded for a better chance to live, pleaded for the abolition of night work, pleaded that the youngsters may run and play, instead of having to tend looms till their tired bodies were roused into a waking-sleeping posture by the shout or the push of a foreman. They have these things in China; possibly they have them in India to-day (though I am told that juvenile labor on night shifts has been abolished since some time). Let us suppose they have them in India too. Is that a reason for perpetuating such slavery here? Two blacks never made a white or *vice versa*, and if Japanese industrialists set the example first and then called the world's notice to the situation in India (granting it is as bad in the factories there) the ensuing benefits to the younger generation of both lands would have been immense. Let us not, in our desire to see factories vomiting smoke and in our desire to have the ear gratified with fulsome adulation, send the youth of the land to the maw of the industrial monster.

There is no doubt that, when the provisions of the International Labor Conference are fully enforced here, some factories will go to the wall; while others will have to pay smaller dividends, as the price of labor, with the elimination of women and children, must rise. But these were re-adjustments that had to come after the post-war boom when the gulf of depression yawned. Nevertheless, no notice was taken and the day of reckoning has arrived. Proper readjustment now, more spindles to make up for lesser hours, will put Japan right again. Otherwise a few will get the dividends, the majority will be in an even worse position as external causes and forces make for a higher outlook on life, discontent will grow and the after-reckoning may even be far more costly, both in money as well as in opportunity and time lost.

Mr. Rea's arguments regarding a tariff raise in India queerly refuses to talk of how tariffs are put in his own land. As for the United States and Japan combining to smash the League of Nations or to force British suzerainty out of India or to force India out of the League, there will be time enough to talk of it when America steps into line. Personally, I believe that when the United States comes into the League, she will come in the spirit of her War President and, instead of even making the least semblance to tear down this only temple that seems to promise a readjustment of mankind's quarrels, will on the contrary do her best to strengthen and build it firmer. The League is the correct place to carry your troubles to and India, in so doing, has chosen the right 'ole.

As to South Africa, Mr. Rea is again wrong--perhaps due to his strenuous labors in China, Japan and America. The South African issue between that country and India is NOT a law as yet. There is a very powerful body of South Africans in India to-day trying to smooth matters out and round-table discussions are still being conducted. The issue is not a party but a national matter and the Rebel Hertzog and his henchmen will not have the say alone. The Indians and Europeans in India are of one mind about the matter, while Mr. Andrews, now in South Africa, is of opinion that there is now a desire for a friendly settlement on both sides. South Africans, be they Dutch or Uitlanders, cannot surely forget what is written on Rohdes' tomb. England is tired of Boer bickerings, and, if ithas to be a choice, many an Englishman believes that South Africa will be told to go her way, while England will stand by India whose cause in this matter is perfectly just. As for the virtual endorsement of South African persecution that Mr. Rea makes in the latter part of his letter, that can be allowed to take a place with the Y.460,000,000 fiction.

In conclusion, India has a right to protect her important industries; Japan and India—and if necessary Great Britain—can talk things over calmly and dispassionately and come to an understanding without need for extraneous experts; personal or private interests should not be allowed to becloud the issue and, I hope that the newspapers here will study both sides of the question before pronouncing Benedicites on articles that, by their tone, will do no good, but on the contrary, will only inflame the minds of those not in full possession of both sides of the controversy. As Sir Roger de Coverley so very truly said: "There's much to be said on both sides." Let's have both sides, in an unprejudiced manner. Apologising for taking up your space.

ALFRED E. PIERES.

Yokohama, October 29.

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Alleged Japanese Competition

The Editor, *The Japan Times*, Sir: Mr. Pieres persistently calls the attention of the readers of *The Japan Times* with respect to Japanese competition to hear both sides of the question but I am afraid he himself has fallen into the error of seeing only one side of the controversy. Just a cursory perusal of his letter is sufficient to show that his whole source of information is derived from papers like the Indian *Daily Mail* and the *Bombay Chronicle*, the organ of the Bombay mill-owners.

Ignorant or not caring to enquire, in one sweeping generalization, he condemns Japanese competition in India, the success of which he attributes to bounties, rebates, double shifts, cheap wages, and the non-ratification of the Washington Agreement, etc. It is difficult to reply to all these charges within the space usually alloted to the Forum, but I hope, Mr. Editor, you will condescend me a like indulgence.

India, being one of the leading agricultural nations of the world, two-thirds of her exports consist of food-stuffs and raw materials. Thus nearly all of the goods imported into Japan from India are agricultural products while the exports to India from Japan consist of manufactured goods. Trade statistics show that the exports of Indian goods to Japan amount to three times the value of Japanese goods imported into India. Now comes the controversial subject —cotton goods. Japanese cotton goods imported constitute only about THREE PER CENT of the total consumption of the manufactured cotton goods in India. Now the Bombay mill-owners have been beating loud the drum of protest and with the aid of the British press—for the first time in the history of its relations with India—have been clamoring for the imposition of a discriminatory tariff against Japanese cotton goods, mark, for this THREE PER CENT! This three per cent. excludes the hand-woven cotton piece goods of which there is a large number. If into the percentage calculation this amount of hand-woven piece goods be included, the percentage of Japanese goods becomes still more insignificant.

The senselessness of the Bombay mill-owners will shortly be evident. Of the pieces goods Japan sends to India, they are the cheapest and cater to the poorer classes of the people, who form the vast majority of the people of India. Suppose a discriminatory tariff be set up, then the price of these goods will go higher, and though it may benefit the Bombay capitalists it will be the poor majority that will be ultimately affected. The Japanese contention on this discriminatory tariff is dignified and invulnerable. In a statement issued by the Secretary of the Japan Cotton Spinners Association to the Secretary of Finance and the Secretary of Commerce to the Government of India dated February 17, 1926, it says: "If India raises the import duties indiscriminately for all foreign countries as a matter of financial necessity and after justly considering the actual circumstances of Japan, we shall have no cause to approach you, but if a discriminatory tariff operating to Japan's disadvantage is to be adopted, we think it only right to express our fears that the result will not tend to trade development and mutual benefit"—which is perfectly true when it is remembered that for every rupee that leaves India to Japan, three rupees enter India from Japan, so that India is a gainer by two rupees. It is evident that Mr. Pieres' blatant statement that the Indian mill-owners are justified in stabilizing their industry by a discriminatory tariff is pure moonshine. It is not Japanese competition that is proving a bane to Indian industries but it has been and is still Lancashire that is the historic enemy of native industries. If the British press has been so solicitous of the Indian cotton industry, how was it that for nearly thirty years it opposed the repeal of that utterly unfair excise duty, which from the very beginning of its operation ruined India as a competitor in this line of business. It is no use for Mr. Pieres to raise the bogey of a Japanese menace to Indian industries, when the actual circumstances of the case on close examination prove it to be just the other way. Either he is quite ignorant of commercial matters or he is a victim of propaganda, the effects of which he in his letter deplores.

Now as regards the hours of operation over which Mr. Pieres waxes indignant at the hapless fate of factory hands that are sacrificed at the maw of the industrial machine. The hours of operation of the Japanese cotton spinning factories are 20 divided into two shifts of 10 hours each. The longer hours of operation is due to the much larger amount of capital required in the cotton spinning industry of Japan. The United States Tariff Commission in a report issued in 1921 says that the cost of erecting and equipping mills in Great Britain is $32 per spindle, in America $40, and in Japan $60. Again the same report says: "The amount of investment required per spindle operated has therefore been relatively much higher than in the United States. In order to overcome this handicap, every effort has been made to obtain the largest possible putput from the expensive plant and equipment. This is strikingly evident from the fact that the Japanese spinning mills have, almost since their inception, been operated day and night, employing twelve-hours shifts for an average of 27 days per month." Thus it will be seen that the double shifts system in Japan has been an absolute necessity. It must be mentioned that the revised factory law which takes effect from this year provides that three years after the law commences to operate the night work of women and minors shall be prohibited and therefore such night work in the cotton spinning factories of Japan will be abolished within three years from now. The reason why three years of grace have been provided for is self-explanatory to all having a knowledge of factory management.

With regard to age limit it is important to note that whereas the factory law of India provided that the minimum age of workers to be employed in the factories, shall be 12 and the maximum age of minors shall be 15, the revised factory law of Japan provides that the minimum age of workers shall be 14 and the maximum age of minors shall be 16. Again since the night work for women and minors is to be abolished about three years hence, the phrase "sweated labor" used by the Bombay mill-owners and repeated parrot-oike by Mr. Pieres is rather misplaced, when applied to Japanese factory workers.

If Mr. Pieres is still unconvinced I shall touch upon the question of freight rebates, low interest rendered by the state and the non-ratification of the Washington Agreement in a subsequent letter. Japan has been maliciously misrepresented in this matter, which on analysis you find to be more smoke, artificial smoke, than fire. This reminds me of the story of a scientist, who on looking at the moon with his huge telescope found a huge elephant inside the moon, but on careful investigation it was verified that there was a rat inside his instrument. The Japanese competition in India, as a bogey, depends on the kind of spectacles you put on.

Mr. Pieres asks, "Where does Mr. Rea get the idea that there are 60,000,000 people in India to whom the most elementary rights of human beings are denied ?" I tell him from no other source than India. Mr. Pieres comes from Ceylon. Has he forgotten or has he failed to see that in the tea and rubber estates of that island there are hundreds and thousands of human chattels that go by the familiar name of the 'coolie.' Now, who are these coolies and from where do they come ? Well, they come from India and they come from the class known as the Untouchables not actually pressganged but enticed by the most alluring prospects held out by the agents of tea and rubber planters, but who on their arrival are registered in the estates to find that they had only jumped out of the frying pan into the fire. Japan may be enticing girls from the country, but the treatment they get in the factories when compared with the treatment these coolies receive is as different as the poles.

Why is this system not put an end to ? For a very good reason, and that is handsome dividends. Kanegafuchi may be offering 30 per cent., but I can say without fear of contradiction, that this percentage compared with the more than hundred per cent. profits the planters get out of these untouchables is far better and more honestly earned than in the case of the Ceylon planter. I am quite aware that we are dealing one with the textile industry and the other with plantation, but in both cases the argument hinges on the labor question, and I am glad to say that in the treatment labor receives at the hands of Japanese capitalists and that at the hands of capitalists in India Japan need not hang down her head in shame.

Indian intellectuals have come to realize the injustice of treating their depressed brothers and sisters in the way they have done and Mahatma Ghandi has put the removal of untouchability as an indispensable condition of Swaraj. He has gone so far as to adopt one young girl from among this class as a lesson which his compatriots should try to emulate. But while the Indians unofficially are trying their best to put an end to this evil, why does not the Government raise its little finger to stop this evil. It has got all the prestige and all the authority and the Indian intellectuals would be at its back, and it had ruled the country for more than a century and a half and this social injustice is as rampant as ever. The Government would not dare to legislate for the simple reason that an inexhaustible reserve of cheap labor would be cut short, then what would happen to the rubber and tea plantations, Lipton's tea estates in particular. To blame Japan for her treatment of labor !—go to India and Ceylon and you will see. I strongly advise Mr. Bronson Rea, with the major portion of whose article I heartily concur, to go to these tea and rubber estates in the interests of humanity and let him reserve his indignation for the ruthless planter rather than for the "wily" Parsee, whose treatment of Indian labor is far from commendable.

For considerations of space I cannot touch upon the question of India's presence at the League of Nations—a slave, not the master of his own house, yet impertinently sitting on equal terms with other independent members. I shall not touch upon this subject further, suffice it to say that in the present condition of her political degradation India's presence at the League meetings is an astounding anomaly.

INDIAN NATIONALIST.

Marine Engine Castings

A MOST interesting paper was read at a technical association meeting in London recently, dealing with the various aspects of the question of machine moulding in non-repetition foundries. Undoubtedly those who are responsible for the production of marine engine castings should be alive to any development that will result in cheaper castings.

The writer of this article, as the result of many years experience in foundries of all kinds, and specially in foundries specializing in marine castings, is convinced that machines could be used to a much greater extent than at present. There is a prevalent idea, he says, that machine moulding is only profitable if many hundreds of castings are required, whereas it may be profitable to use a machine when only a dozen castings are needed.

In addition to engine room work, a huge number of small castings are required for deck fittings. In some cases where several castings of the same kind are wanted each has to be fitted to place, that is, the fitting is different ; it is then necessary to make one casting and alter the pattern for each subsequent one. This pattern altering may often be obviated by incorporating fitting strips in the design, when a number of castings may be made from one pattern. It is extremely important in these matters that shipbuilding costs should be reduced in every way possible, and pattern making charges can often be lessened by care in the drawing of ice. One knows of certain shipbuilding yards where almost every pipe and valve is fitted to place, while in others it is seldom necessary to take any pattern to the vessel. A pattern made or fitted to place is invariably costly, and it is very rare that the production of the casting can be facilitated by machines.

Both in Naval and merchant work many small castings are used which are very frequently made by hand methods, when they could be better or more quickly made on a machine. Until recently there was no machine that was of much use for heavy work, such as bed-plates, but the sandslinger is now available ; this is really a ramming machine, the sand being thrown violently into the mould. The portable type of this machine can be moved about the foundry, and a method commonly followed is to ram deep bottoms on a jolt machine, and, after putting on the cope, place it under the sandslinger for ramming.

Admittedly in large marine work there must always be a certain amount of hand finishing of moulds because there are undercut parts and the sand must be pressed into it with the fingers. There is no reason why the sandslinger should not be used for castings weighing 20 tons or more, and this covers practically all marine engine castings, whether they be reciprocal or turbine. Heavy cores take much time, but these, when core boxes are available can be made with the sandslinger.

The shake-out table was also discussed. This machine consists of a cylinder and piston at one end, while the other end works in a knuckle joint. The boxes are placed on the tables after casting. They are picked up by the crane, shaken out over the table and placed over the pattern again, this being a great time saver. When heavy marine castings are made, it is usually a big job knocking out the sand and removing the casting to the fettling shop.

It is probably correct to say that the most useful moulding machine for general marine work is one which generally rams the sand, and jolting machines that do so are suitable for both iron and brass foundries. There is also plate moulding, which may be termed a midway process between hand and machine moulding. Plate moulding is most useful when several castings are required. Simple jolt machines are economical to operate, and they can be used for cores as well as for moulds.

The author goes on to say that he visited recently a large electrical works in the Midlands, where all large cores were jolt rammed, and the machines were made in the firm's own works.

There is a certain class of marine work for the production of which it would be very difficult to use machines—large castings such as stern frames and propeller shaft brackets. These will probably be, in every sense, hand moulded. There is also the process of making moulds without patterns and by means of boards ; this ap plies particularly to circular work, and it is probable that no saving in moulding costs would compensate for the construction of the patterns.

It may be contended by some marine engineers that, as the manufacture of castings is given out it need not concern them whether machines are used or not. This is a short sighted view, not only because of the cost question, but also because machine production is invariably better than hand production when the machine is intelligently operated. There are few marine engineering firms that have foundries for the production of heavy iron castings. Although many have light iron foundries, and most, perhaps, have brass foundries. In some cases the percentage of work that is given out is comparatively small.

There is no reason why foundries that specialize in the production of marine castings should not have the most up-to-date equipment. Repetition work, and especially small repetition work, can be done almost entirely by semi-skilled labor, but it is doubtful if this will ever be the case with marine work, which is relatively complicated. It is unfortunate that moulding machines are almost useless for repair jobs because they are usually most urgently wanted, but the equipment of the foundry, apart from the actual moulding machines has a big influence on speed of production.

Japan's Fight Against Discrimination

The Case for The Japan Cotton Spinner's Association

A Plea for Fair Play

By Geo. Bronson Rea

In an editorial article on The Cotton Question appearing in its issue of October 26, *The Japan Chronicle* once more attacks Mr. Geo. Bronson Rea for exposing the motives behind the anti-Japanese campaign waged by the Bombay Mill Owner's Association. With all the data surrounding the Japanese side of the controversy in its possession, instead of saying a friendly word for the interests of Japan, *The Japan Chronicle* distorts the facts and shirks the real issue by delivering itself of a Free Trade curtain lecture for the benefit of the Japan Cotton Spinner's Association. In the following article Mr. Rea clarifies the real issues at stake and brings forcibly to the attention of the people of Japan that The Japan Cotton Spinner's Association is engaged in waging a determined fight against what he rightly characterizes as progressive discrimination.

Basic Facts in Japan's Cotton Textile Position

1. The cost of erecting and equipping a cotton mill in Japan is two to three times more per spindle than the cost of a similar plant in England.
2. Aside altogether from humanitarian or labor considerations, and viewed strictly as a business proposition, the Japanese cotton mills must be operated two to three times longer than the British mills to get the same returns on the capital invested. Consequently, the Japanese mills are operated on a day and night basis in order to maintain the competitive position of the industry.
3. Eighty percent. of the mill workers in Japan are females whose average term of employment does not exceed two years. Japanese workmen regard spinning and weaving as essentially the work of women and even under the inducement of higher wages, refuse to engage in tasks considered as beneath their dignity.
4. The textile industries of Japan are therefore entirely dependent upon female labor for their successful operation and in order to assure its continued existence, the Japanese mill-owners have instituted a system of housing, medical, educational and general welfare work for the protection and well-being of its female workers which surpasses in its humanitarian treatment of labor similar systems in other civilized countries of the world.
5. Japan's acceptance and ratification of the International Labor Convention of 1919 regulating the hours of work in cotton-mills and abolishing the night shift for women and young persons, viewed from a purely practical standpoint, cuts the competitive power of the Japanese cotton industry in half and hands over to the British industry an assured supremacy.
6. The paid-up capital of the Japanese cotton industry is roughly Yen 350,000,000 and if night work is discontinued the investment value of the mills is reduced to Yen 175,000,000. In order to hold its position in the world markets and provide work for the people thrown out of employment by abolishing the night shift, Japan must invest another Yen 175,000,000 to even up the disadvantage.
7. The question arises : Can Japan afford at this time of business depression to destroy its competitive position in the textile industry, throw out of employment thousands of workers and invite economic disaster by hastening to apply Labor Conventions which none of her great competitors have as yet shown any inclination to accept ?
8. Is Japan to be coerced by the threat of an International Boycott carried out by the League of Nations or the enactment of discriminatory tariff legislation in other countries into surrendering her right to exist by peaceful methods ? This is the issue that The Japan Cotton Spinner's Association has been confronting for the past five years in a struggle to maintain its position in the Indian markets.

Roots of The Controversy

The fight now being waged by The Japan Cotton Spinner's Association is not directed against Bombay's demand for legitimate tariff protection. The roots of the controversy go deeper than that and for the benefit of the people of Japan and the formation of a proper public opinion, the real facts should be made clear. The anti-Japanese agitation in Bombay is of long standing. It was initiated as far back as 1921, when the Bombay cotton mills had to meet foreign competition after the collapse of the profitable war boom. Then they began to attack and villify Japan by misrepresenting conditions in this country in order to divert attention from their own inefficiency and mismanagement. At the same time, the question of Imperial Preference was being agitated in India in order to provide a special tariff dispensation in favor of British manufactured products and incidentally to destroy the growing Japanese trade in textiles. There was also considerable talk about applying an export duty on raw cotton as a revenue producing measure which would also have penalized Japan which had become dependent upon India as her main source of supply for this basic commodity. Faced with the possibility of having their trade in manufactured goods wiped out by the imposition of a preferential tariff in favor of British products and their industry at home crippled by an export duty on raw cotton, The Japan Cotton Spinner's Association on December 30, 1921, submitted a statement to the Secretary of Commerce and the Secretary of Finance to the Government of India which clarified the misunderstandings about the Japanese cotton industry created by the publication of numerous magazine and newspaper articles in the Indian press. This very respectful and extremely courteous document is what *The Japan Chronicle* describes in its editorial of October 26, as the first " counterblast " of the Japan Cotton Spinner's Association. As a matter of fact, that statement was not directed against any legitimate protective tariff measure that might be adopted by the Indian Government, but to protest against an impending discriminatory import tariff that would penalize Japan. This fact is fully disclosed in the covering letter which says : **" Honorable Gentlemen, if the custom duty of India is to be raised from her financial necessity, endorsed by the public opinion of India, we have, of course, nothing to say, but to introduce the system of preferential tariff clearly violates the principle of " fair trade " and gives the most unfair discrimination to the countries excluded from the preference."**

Plainly, the Japan Cotton Spinner's Association was here defending their interests, not against any legitimate protective tariff that might be applied by the Indian Government to all countries alike, but against a DISCRIMINATION that would have ruined their trade with India and seriously impaired their industry at home.

Notwithstanding the very straightforward and convincing statement of facts then presented to the highest authorities of India, the communication made no permanent impression on the

Indian public. The anti-Japanese crusade continued with more or less moderation until it broke out again with increased malignity during the campaign staged last year by the Bombay mill-owners for the remission of the Cotton Excise Tax. Now the principal grievance held by Bombay against Japan lay in the fact that although the Indian Government had hastened to ratify the International Labor Convention passed at the Washington Conference of 1919, the Japanese Government has to date delayed in formally accepting its provisions. This, according to Bombay, gives to Japan the advantage, and her competition is loudly denounced as " unfair " and her textiles, as the product of " sweated labor."

The Indian and British press, supporting the Bombay mills, waxed virtuously indignant over the alleged " inhuman treatment " accorded the women and children employed in the Japanese cotton mills and a movement was started to penalize Japan through the League of Nations by having her manufactured goods subjected to an international boycott until she ratified the convention. The following quotations amply testify to the general Indian and British attitude towards this question. *The Times of India* (Bombay) on February 5, last, concluded an arraignment of Japan in the following words:

" Humanitarian considerations also require that the Governments of all civilized countries and the International Labor Office should bring pressure to bear upon the authorities in Japan to make that country toe the line with other civilized countries so far as the treatment of labor is concerned."

In another article which the Bombay Mill Owner's Association quotes from *The Times* of London, appears the following: **" It is to be hoped that the International Labor Office will take some effective steps to force Japan to carry out her international obligations so that on the one hand the legitimate grievance of this country, (India) which has faithfully carried out the Washington Convention, may be removed, and on the other hand a state of things which flagrantly violate principles of humanity and social well-being may be brought to an end."**

The subject was further discussed in the House of Commons on July 9, 1925, when Mr. Johnstone, after referring to the sweated labor conditions in Japan advocated an international boycott through the League of Nations from the " civilized markets of the world against the products of this sweated labor." The matter was also brought before the Indian Council of State on February 10, of this year and called forth the following reply from the Hon. A. H. Lay, which so clarified the situation and justified Japan's position that the campaign for instituting an international boycott against her products was dropped. He said:

" No country is obliged to enforce any draft convention adopted by an International Labor Conference unless and until it has ratified that convention and the question whether a convention shall or shall not be ratified is a matter for the authorities within the country to decide. Should the competent authorities decide that the convention shall not be ratified no legal obligations rest on that country to secure the enforcement of the convention. If a member fails to secure the effective observance of any Convention, which it has ratified, any other member ratifying that convention is entitled to file a complaint with the International Labor Office under Article 411 of the Treaty of Versailles. As, however, Japan has not ratified any of the conventions to which I referred, no question of such a complaint can arise."

It is well for the people of Japan to get the proper perspective on this point, for here again Bombay's attempt to institute an international boycott on Japanese goods constituted a flagrant discrimination in singling her out for a punishment that practically every other great power equally merited. For it must be borne in mind that to date just five governments have ratified the International Labor Convention of Washington, viz., Bulgaria, Czecho-Slovakia, Greece Rumania and India, all small states and of minor industrial importance. It is noteworthy that neither Great Britain, France, Germany, Italy nor the United States have ratified this convention; yet we see a violent campaign being waged to bring pressure to bear upon Japan to force her to accept labor regulations she is not committed to adopt, unless she so desires.

The important fact that stands out in this controversy is:

The Government of Japan is not committed to accept or ratify the International Labor Convention regulating the hours of work in this country or abolishing night work for women. Japan is violating no International Law in protecting her own interests and until the other great industrial nations subscribe to the convention, it would be suicidal for Japan voluntarily to place herself in a position of industrial inferiority.

Let us keep to the record and follow the ramifications of the campaign to compel Japan to surrender her rights. When the Bombay Mill Owner's Association learned that the punishment of the League of Nations could not be invoked against Japan, it despatched a communication to the Government of India under date of March 9 of this year urging coercion through a discriminatory import tariff on Japanese cotton goods. It said:

" Since it is not possible to take effective steps against Japan through the International Labor Office, owing to the conventions not being of a mandatory nature, my Committee consider in the interests of Indian Labor and the Indian Textile Industry, that additional duties should be imposed upon the imports of piece goods and yarn from Japan into India until Japan prohibits the employment of women at night, and reduces the length of the working week per operative to conform with the Hours Convention."

What does this mean ? Great Britain, Italy, or the other countries which have failed to ratify the Convention, must not be coerced to compel them to toe the line. Only Japan is singled out for penalization by imposing special additional duties on her cotton goods and yarn until she surrenders and hands over her trade to her competitors: Here we have the principle of DISCRIMINATION, spelled with capital letters.

Explaining the new Japanese factory law to the Bombay Mill Owner's Association, the agent of the Japan Cotton Spinner's Association drew attention to the regulations under which female night work in Japan will be entirely abolished from August 31, 1931, thus loyally adhering to the Convention while at the same time giving Japan sufficient time to readjust herself to the new conditions. He might well have added that this was a voluntary sacrifice on the part of Japan for the betterment of world labor conditions and that there was no obligation on her part to do this, at least, until such a time as the other great powers ratified and enforced the convention. To this very clear and courteous statement, the secretary of the Bombay Mill Owner's Association insolently retorted:

" There is no reason to suppose, judging from past experience, that such harmonic progression will stop even at 1931."

This slur on the good-faith of Japan was rightly characterized as highly provocative and wantonly insulting in the reply of the agent of the Japan Cotton Spinner's Association.

In the communication dated March 9, directed to the Government of India after requesting the imposition of additional duties upon Japanese textiles in order to enforce her acceptance of the Washington Convention, the Bombay Mill Owner's Association made the amazing proposition that the committee appointed to determine these discriminatory duties should be selected by the association, its meetings held **en camera** and that the Government should bind itself in advance to accept any recommendation this committee should put forward. This was too much even for the Indian Government and after sternly rebuking Bombay for its brazenness, settled the question by the appointment of a Special Tariff Board to inquire into all phases of the Indian cotton industry and to ascertain how much protection, if any, is required to safeguard the industry from outside competition. The British Safeguarding of Industries Act lays down amongst other things, that no order shall be made under Part 1 unless it is established that the industry manufacturing similar goods in the United Kingdom is being carried on " with reasonable efficiency and economy." In order therefore to arrive at all the facts surrounding the Bombay industry a list of some 130 pertinent questions was prepared by the Tariff Board to form the basis of the inquiry. Many of these questions will be most embarrassing for the Bombay mill-owners to answer.

At the height of the campaign to coerce Japan by invoking the punishment of the League of Nations, The Japan Cotton Spinner's Association under date of February 17, of this year, sent its second communication to the Indian Government. Once again, the purpose of this communication is clear. It says in its covering letter:

"If India raises the import duties indiscriminately for all foreign countries, as a matter of financial necessity and after justly considering the actual circumstances of Japan, we shall have no cause to approach you, but if a discriminatory tariff, operating to Japan's disadvantage is to be adopted, we think it only right to express our fears that the result will not tend to trade development and mutual benefit."

Here again, it is clearly evident that The Japan Cotton Spinner's Association were not concerned with any legitimate raising of the tariff applying to all countries alike, but in view of the object of the campaign then being openly and vigorously waged to impose a DISCRIMINATORY tariff against Japanese textiles in order to coerce the Japanese Government into adopting the provisions of a convention that none of its great industrial rivals had shown any inclination to put into force, it had no alternative but to place the facts surrounding the Japanese industry squarely before the Government of India. This was the second "counterblast" referred to by *The Japan Chronicle* in minimizing and ridiculing Japanese efforts to defend themselves against unfair and discriminatory treatment.

As pointed out in my article on "Indian Steel or National Defense" the fight against Japan assumed such proportions that Bombay urged the Government of India to denounce the Indo-Japanese Trade Convention of 1905, under whose provisions Japanese goods enjoy on importation into India the lowest customs duties applicable to similar products of any other foreign origin and the same treatment is secured to Indian goods entering Japan. The impassioned plea of Mr. V. A. Grantham, president of the Bombay Chamber of Commerce, closely calculating both sides of the case for denouncement of the treaty, indicates the intensity of feeling on this matter, and it was only when the Indian Government very properly refused to take such a serious step that the Special Tariff Board was appointed.

This Board is now holding hearings in Bombay. It is, however, important that we do not lose sight of its main object, viz., to determine, how much, if any, protection is necessary to enable the Bombay mills to compete with their Japanese rivals. The creation of the Board came as a direct response to Bombay's peremptory demand for the imposition of additional duties upon Japanese goods until Japan should put into practice the International Labor Regulations. The issue again, is clearly one of DISCRIMINATION, and we find, that confronted with this same old menace, the Japan Cotton Spinner's Association once more under date of October 1, set forth its case to the competent Indian authorities. Again, we quote from the covering letter to the report:

"The Japanese cotton spinners have not in mind to object to a mere tariff increase, as is evidenced by the fact that no complaints have been made when the Indian rates on piece goods were twice increased since 1917, but we make this appeal to you because the present tariff issue is different in nature from the previous cases and aims at giving a discriminatory treatment to Japanese yarn and piece goods"

This is what *The Japan Chronicle* calls the third "counterblast," when it is clear to any fair-minded observer that throughout the entire controversy with Bombay the Japanese position has been scrupulously correct and dignified. At no time have they attempted to interfere with or object to any proposal for raising the Indian import tariff on yarn or piece goods applying to all countries alike. Only when their own trade has seemed to have been singled out for unjust discrimination have they appealed to the proper authorities for a Square Deal.

Reduced them to a nut shell, Bombay's grievance against Japan is the employment of women in the night shift in the textile industry and to strengthen her case has charged Japan with "a lamentable and callous disregard for the well-being of her female mill-workers" and to force Japan to surrender her competitive position before she had readjusted herself to the new conditions, advocates the imposition of discriminatory tariffs.

Now the refutation of Bombay's charges against Japan, consist in a simple and truthful presentation of the facts surrounding the care and treatment accorded women and young persons in the Japanese cotton-mills. The interests of Japan demand that she be conceded Fair Play and equitable treatment in this vitally important matter. Any foreign newspaper published in Japan having a full knowledge of the facts and which takes no steps no refute the falsehoods in circulation, is deliberately betraying the interts of the community which supports it. *The Japan Chronicle* has these facts in its possession. Even at this late date it has only to publish the illustrations of the Kanegafuchi Welfare Work to assist in counteracting a campaign based on an utter falsification of the facts. Instead, however, of extending its sympathy and support to any industry battling bravely against the false charges of violating the principles of humanity and social well-being, in a campaign to coerce it into surrendering its competitive independence through the imposition of discriminatory tariffs, it hurls insults at those who present the facts and conceals the real issue behind a free-trade diatable which bears no relation to the controversy. THE JAPAN COTTON SPINNER'S ASSOCIATION is fighting against DISCRIMINATION, and it has the right to expect that the newspapers of Japan will rally to its defense, when its trade is placed in jeopardy by the circulation of falsehoods concerning the treatment accorded its Female Mill Workers. In no country in the world is such kindly consideration shown for the welfare, comfort and general happiness of its women cotton mill-workers as in Japan. That is a truth, that *The Japan Chronicle* as a representative British newspaper published in Japan, can tell its own people in India, and support it with the photographic proofs, that will carry conviction.

Let us recapitulate. Wilson openly discriminated against Japan when he arbitrarily ruled that Baron Makino's motion for recognition of racial equality in the covenant of the League required unanimity and then passed the Monroe Doctrine with six votes four and five against. The United States Senate discriminated against Japan in passing the Immigration Law. In the California school the Land Ownership questions the real issue was discrimination. Japan is discriminated against by other countries, not so openly perhaps as to offend their dignity, but quite as effectively. The world has erected a ringed fence around Japan compelling her people to remain at home and work out their salvation without the great boon of free emigration enjoyed by other more fortunate peoples in relieving their pressure. Japan accepts the discrimination and has settled down bravely to win her place in the world peacefully by developing her industries. Is she to succeed?

If, with all the existing handicaps, her trade is now subjected to discriminatory tariffs, as happened in Egypt with her tobacco, and as they are now trying to do in India with her cotton goods, surely the rest of the world is inviting trouble by keeping Japan in a water-tight compartment and then cutting off one by one her trade opportunities. For no people, no matter how peaceful, how patient, how courteous will remain always meekly quiescent before a systematic and progressive discrimination which menaces their peaceful existence. Is the peace of the world threatened by such unfair treatment? Must a writer be insulted and called a travelling Japanese propagandist because he invites attention to the menace involved in this progressive discrimination against Japan?

What the Filipinos Want

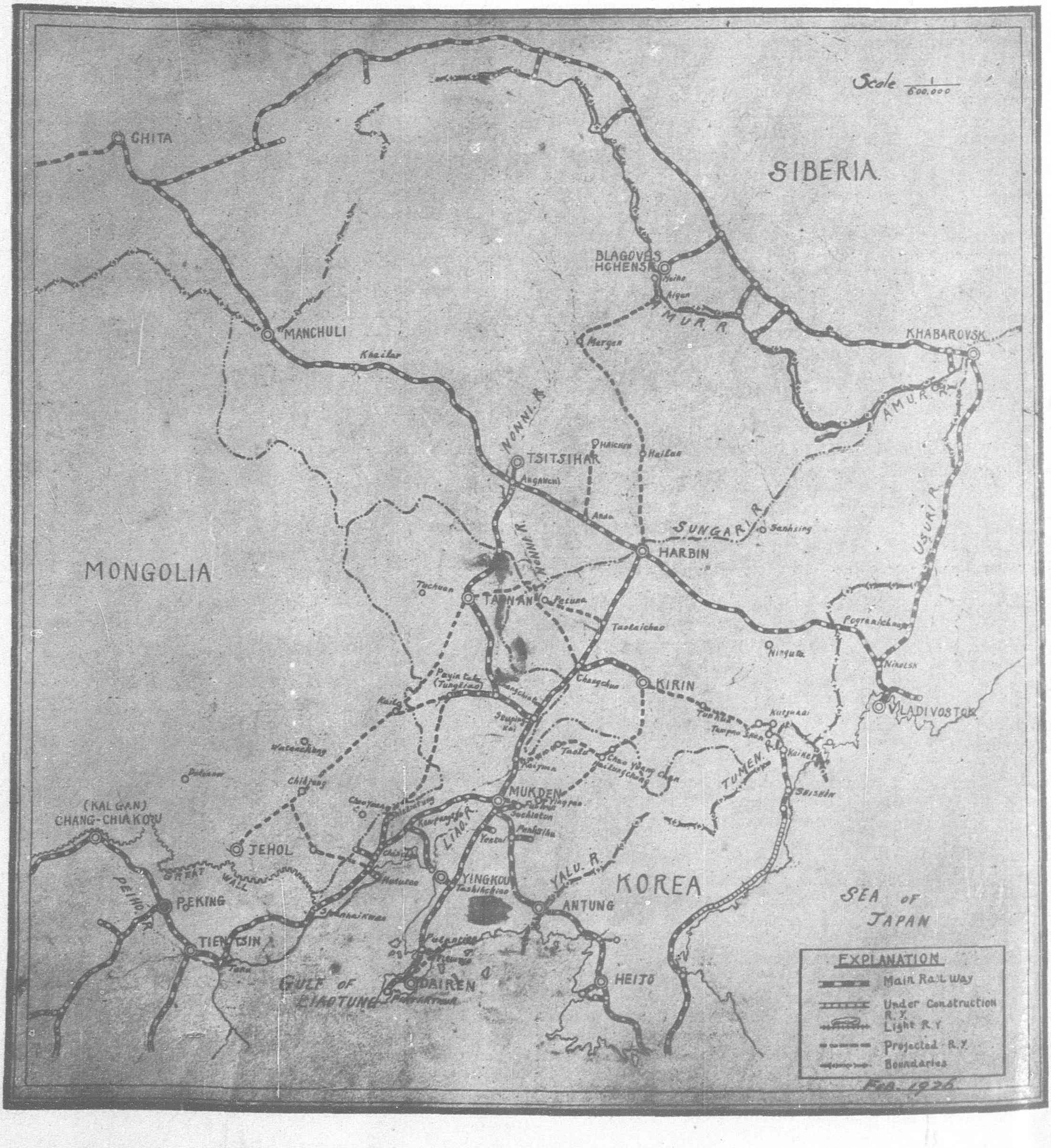
"Does Manuel Quezon, President of the Philippine Senate and leader of the Nationalista party, the party that demands immediate and unqualified independence for the Islands, represent the opinion of the majority of the people of the Islands?" Dr. Stephen P. Duggan, Director of the Institute of International Education and a member of the Educational Mission to the Philippines, raises this question in *Foreign Affairs* (New York) for October, and answers it as follows:

"The opponents of independence say he does not. They hold that the solid Filipinos do not believe in independence but are coerced into professing it for fear of what might happen to them or their property if they openly opposed it and it were nevertheless to come. But it is significant that the old Federal party which stood for the American connection has totally disappeared, and that the other Filipino party, the Democrata, also has an emphatic plank for independence. The present writer, who met eminent and solid Filipinos in almost all vocations found few who did not favor independence. Sometimes it was a slightly qualified approval, favoring a little longer delay before the connection should be severed, sometimes the approval was for something less than complete independence, e.g. to allow the United States to retain control over foreign relations and military affairs. But generally it was for complete independence at the earliest possible time."

The Chinese Owned Railroads of Manchuria

THE Chinese themselves are undertaking, and have definite plans for future construction of important railways in Manchuria, declares Civil Governor Mo Teh-hsueh, who, in addition to his duties as Civil Governor of Mukden, is also the head of the commission which has Manchurian railway affairs in hand. Mo took charge of his office about half a year ago, upon the resignation of Civil Governor Wang who abandoned a long and particularly successful career when Chang Tso-lin insisted on carrying on his campaigns south of the Great Wall.

General Mo expresses the belief that the extension of transportation facilities, both railways and cart roads, furnishes one of the most important keys to the further development of the Three Eastern Provinces. The projects which he outlines are particularly significant in that they emphasize the point that the Chinese are building and intend to build railways for themselves. Thus to the situation which has attracted almost exclusive attention abroad when Manchurian affairs have been considered, namely the rivalry between Russian and Japanese interests, is added a third



and most important factor, namely the rapidly growing control by Chinese of extensive railway systems, in connection with which must be considered also the extension of Chinese control in the Chinese Eastern Railway.

"The railway line which is now being built between Mukden and Hailungchen is the most purely Chinese railway line in existence," claimed Governor Mo, with much evident satisfaction, when seen at his yamen in Mukden the other day. "Of this sixty miles have already been built, and the entire distance of about 153 miles will be completed by March of next year. It is being built by Chinese engineers and by means of Chinese capital, a part thereof being furnished by the Mukden Government and the rest by private subscription."

This line traverses a rich section of territory, Hailungchen being a large town lying between Mukden and Kirin, the capital of the province by that name. Governor Mo added that the present undertaking is only a part of the larger scheme which contemplates the carrying on of the railway as far as Kirin.

From Kirin a railway is now being built as far as Tunhua, in an easterly direction. This undertaking is being carried on by contract for the Chinese by the South Manchuria Railway in accordance with an agreement with the Chinese Government, signed at Peking last year, and will, when completed, be under Chinese management. It was expected that this line would be completed by April, 1928, but it has recently been decided to shorten the route by the construction of four tunnels, of which two will be quite long, and this will involve a longer time for construction. Considerable divergence of opinion exists in Manchuria as to the direction in which further extension of this line should take from Tunhua, some believing that it will be most profitable to carry the line on towards Ninguta, a town north of Tunhua and not far distant from the Chinese Eastern Railway line, while others contend in favor of building in an easterly direction. This latter plan would enable the new line to connect with existing lines running from the Korean coast, and this plan has therefore been regarded by some observers as a Japanese strategic scheme, as it would provide a direct line from the Korean coast to Changchun. It is therefore interesting to note that Governor Mo believes that the Chinese should continue the line from Tunhua to the Tumen river, to which a railway already stretches from the Korean coast. This plan must, however, be regarded as one of the fairly indefinite future.

A very interesting project about which little or nothing has been said, involves the building of a railway from Taonan to Solon, an important town north-west of Taonan. Taonan was this year connected with Anganchi (Tsitsihar), a town on the Chinese-Eastern line, by a standard gauge railway. The projected line will go from Taonan in the direction of Hailar, a very important point on the C.E.R., north-west of Tsitsihar. Tsitsihar and Hailar are separated by the Khingan mountain range, and Solon lies just east of that range. A party of Chinese surveyors is now laying out the line as far as Solon, and Governor Mo stated definitely that construction of the road will begin as soon as the survey has been completed. This will be carried out by means of Chinese capital and by the Chinese themselves. The most important point in connection with this project lies in the fact that, according to Governor Mo, it is only a part of the main project, the second step of which will involve carrying on the line right to Hailar.

In this connection Governor Mo stated that the new line from Taonan to Anganchi must be carried on across the Chinese Eastern track to Tsitsihar. The Russians call their station at this point Tsitsihar, but, as a matter of fact, the real town of Tsitsihar, the capital of Heilungkiang (Amur) Province, lies some eighteen miles from the C.E.R. station and is connected therewith by a narrow-gauge railway belonging to the Chinese. The new road from Taonan has been built only to a point about four miles from the C.E.R. station, and the Russians have objected strenuously to the carrying on of this line northwards, across the C.E.R. tracks, to Tsitsihar proper. On the other hand, the Chinese wish to change the present narrow gauge road between Tsitsihar City and the C.E.R. track to a broad gauge line and to connect it with the newly built line from Taonan. Some months ago Governor Wu of Heilungkiang told the writer that he intended to have this plan carried out, with Russian consent, if possible, but "by all means," even if the Russians should continue to object. It is therefore interesting to note that Governor Mo is of the same opinion, emphasizing, as did Wu, that as Chinese will carry out this work, by means of Chinese capital, and on Chinese soil, there can hardly be room for valid objection.

Governor Mo also pointed to the work which is now being carried on by means of Chinese Government and private capital in building a standard gauge railway line from Hulan, across the Sungari River from Harbin, to Hailun, Ostroumoff, the former (White Russian) manager of the C.E.R. being the chief engineer. Trains are already running over a short part of this line. It is intended eventually to carry this road on in a north-westerly direction to Mergen where it is to join another projected line running from Tsitsihar to Aigun. The completion of these plans will thus bring about an all-Chinese railway running from Aigun through Taonan to Changchiatun, and on to Ssupingkai on the S.M.R. line. The developments beyond Hailun and Tsitsihar must, however, be regarded as fairly indefinite at present, though the Chinese have every intention of causing them to materialize as soon as they have the necessary funds.

Governor Mo also referred to another interesting project which is now about to be carried out, namely the building of a railway from Changchun to a point called Nungan. This town lies in the very rich region between Changchun and Taonan, of which Petuna is the center, and the project has specific interest in that it marks the actual beginning of a development which will carry a railway on through Petuna to Taonan, a scheme which was, in fact, included in the preliminary agreement arrived at between the Japanese banks and the Peking Government in June, 1918.

The Civil Governor stated that as this territory contained a number of prosperous towns, this project was regarded as very important, but its execution was somewhat complicated through the fact that the projected line would extend through two provinces, namely Fengtien and Kirin. Money was at present being raised in Kirin for building the portion of the line as far as Nungan, which lies between Changchun and Petuna, but is in Kirin. The construction of the remainder would be a matter for the future, he said.

Development of railways extendiвg in westerly and northerly directions from the branch lines already built from the Peking-Mukden line were also taken up by Governor Mo. Building, he stated, was now in progress which would reach the rich coal mines at Paipiao (some of these are said to be owned by Chang Tso-lin) but the was no present intention of carrying on further northwards. This statement is rather important in that it seems to set at rest the rumors to the effect that the Chinese intended to carry on construction northwards until they connected with either Kailu, Payantala or Chengchiatun, adding possibly a direct line from Taonan to Payantala in case that point should be selected, which would revive the old dream of Willard Straight of a direct line from Aigun (on the Amur River, opposite Blagoveshensk) to Chinchou (on the Peking-Mukden line).

"The question as to whether future development in this region should take a northerly direction, that is, towards Payantala, Chengchiatun, or Kailu, or whether it should extend in a westerly direction, towards Jehol, is one of the far distant future," said Governor Mo, "as at present we have other schemes in mind which are of more pressing importance."

Among the railway questions now being discussed in Manchuria, general interest is concentrated to-day on the position of the Chinese vis-a-vis the Russians in respect to their respective interests in the Chinese Eastern Railway. As is generally known, the Chinese have during the past few months been making a very strong showing, lopping off one branch after another from the control of the Russians, notably the C.E.R. river flest, administration of the C.E.R. schools, and the telegraph system, and the belief is fairly common that either this process may continue until the Chinese will seriatim obtain complete control of the entire system, or that they may take it over by one final action. Incidentally, the non-Chinese in North Manchuria, with the exception of the White Russians who are anxious to see the Soviet side ousted in any and all cases, and the Soviet Russians, who, of course, wish to remain in control, find it very hard to arrive at an opinion as to whether this would or would not be an unmixed blessing. Most foreigners would be pleased enough to see Soviet political influence, which centers in the C.E.R., removed, but, on the other hand, they feel that this desideratum might be offset, partly through the circumstance that the line might become ineffective under Chinese management, as have so many other railways in China, and partly because they fear that a dangerous precedent might be established. In other words, they think, if the Chinese succeed in ousting foreign interests in the case of the C.E.R., they may have their appetite whetted by such success to the point where

(Continued on page 535).

Power and Its Distribution

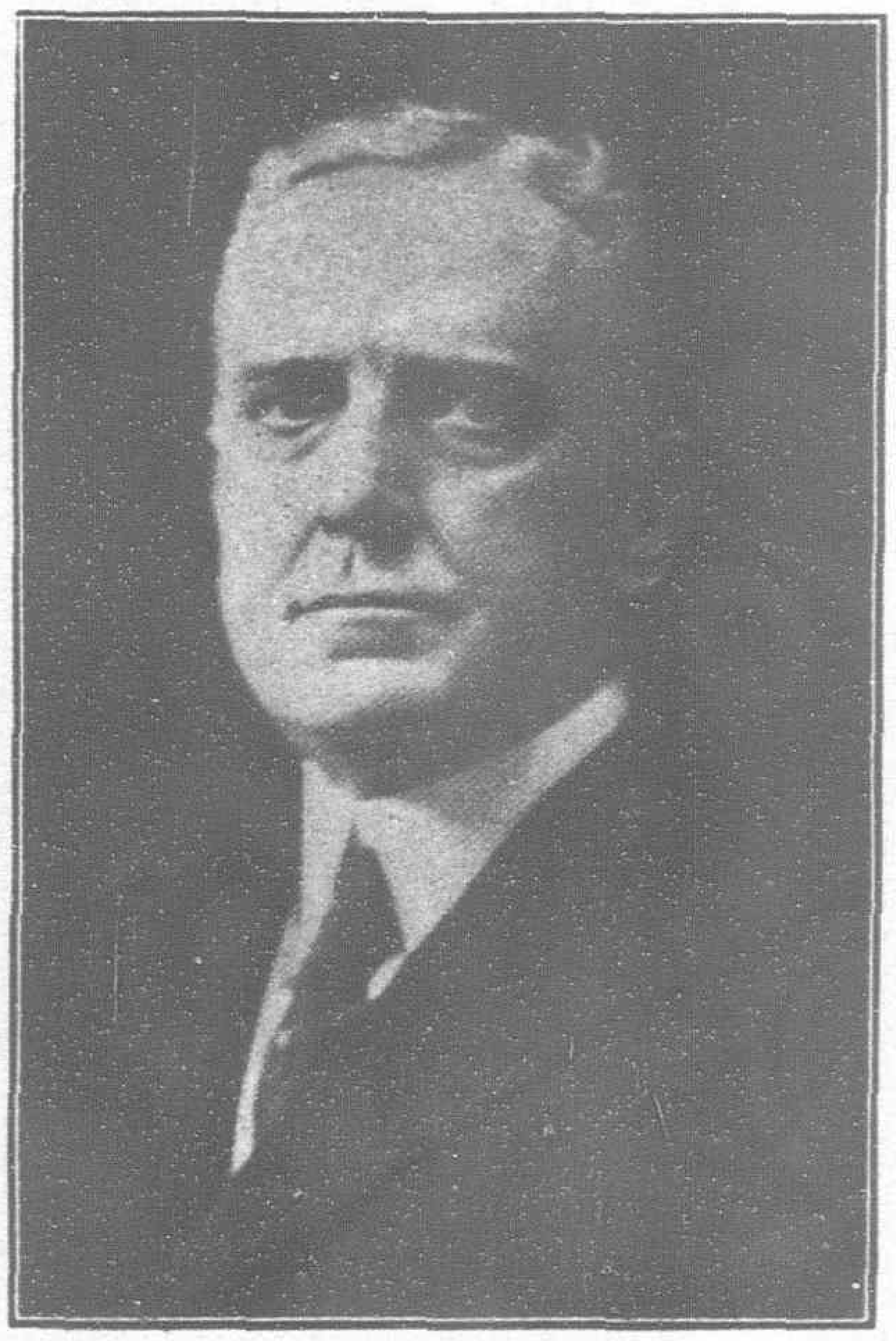
To What Extent It Has Contributed to the Industrial Success of the Nation

By G. E. Tripp, Chairman of the Board of Directors, Westinghouse Electric and Manufacturing Co.

LAST spring, acting upon a suggestion from the British Prime Minister, the London *Daily Mail* sent to the United States a group of eight industrial workers to investigate "what the methods are that enable the American workmen to enjoy a better standard of living than any other working people in the world, to produce more, and at the same time to have so much higher wages."

The mission spent six weeks in the United States, traveled 5,000 miles, visited 42 industrial establishments, and gathered much illuminating information. But they found the answer to their problem in the very first plant they entered, for there they saw men working "as the directors of machinery instead of the slaves of human muscle." Said a member of the mission, a practical foundryman, after watching a man making molds with the aid of power-driven machinery, "In England a man doing the same job would work twice as hard, do half as much, and earn half as much."

That remark clearly illustrates the value of power. Power increases man's ability to produce those useful and desirable things that are essential to our welfare. Power is, in fact, the very foundation of our civilization. So feeble are a man's muscles that, unaided, he is barely able to keep himself alive. The more power a nation properly applies to production, the more prosperous are its people. But where there is no power, the people are always close to starvation.



Mr. Guy E. Tripp

Power Essential to Civilized Life

The pioneers who first endeavored to settle upon these shores had actual experience with life without power. Though they were surrounded by the most bountiful gifts of Nature, they were unable to utilize them adequately. They lacked power to build suitable shelters, clear the forests, cultivate the soil, collect sufficient stores of fuel, and protect themselves from savages.

Sixty-seven of the hundred and five original settlers at Jamestown, and forty-four of the hundred and two passengers on the Mayflower, perished during their first winter, and only by the most heroic efforts did the remainder secure footholds here.

It is, indeed, very doubtful whether civilized white men could have maintained themselves on this continent by their own unaided efforts. At all events, our ancestors did not attempt to do so for any length of time. Very shortly after the actual establishment of the first colonies, power in the form of horses, oxen, and negro slaves was introduced; and thus equipped, the colonists were able to establish permanent homes.

However, they could do but little more. Though these people were perhaps the fittest in all the world to carry on a pioneer existence, and though they had at their disposal unlimited resources, they were miserably poor for more than a century and a half.

Without Power, the People are Poor

Grinding poverty is the inevitable lot of the average man where everything needful must be made by hand. It is difficult for the modern American to appreciate this, for history as ordinarily written tells us little about the people. We read much about the doings of monarchs, warriors, and great men, but unless we are curious about such matters we read almost nothing of the multitudes whose sweat and blood maintained the fortunate few in economic idleness.

But picture to yourself a state of affairs where practically everything you need—house, barn, tools, clothing, furniture, and domestic utensils—must be fashioned from the rawest of materials by the hands of yourself or your family, and you will realize that at the end of a life of the hardest toil, you will possess very little and that, for the most part, of the poorest quality.

So small is the earning capacity of the ordinary man under these conditions that in 1774 the average wage in the colonies was less than $2.00 per week; and according to Prof. J. B. McMaster, "only by the strictest economy could a mechanic keep his children from starvation and himself out of jail."

Samuel Slater, the Founder of American Prosperity

But the old order—the order that demanded exhausting toil to produce the necessities of life—was passing away.

In 1789, Samuel Slater landed in this country with every detail of the new English cotton-spinning machinery photographed on his brain. He built in Pawtucket, R. I., a spinning mill which was operated by horses, but later waterpower was utilized for this purpose. Following Slater's example, power was soon applied to the manufacture of other products, and then America began her transformation from a land of destitution into one of abounding wealth.

Because waterpowers were scattered throughout New England, this district saw the beginnings of manufacturing by power in America; and every New Englander benefitted by the fact that means had been found for increasing production with reduced labor.

Capital, trained business men, and laborers found employment in the new mills; consumers were able to secure many needed articles with less labor than was formerly required; farmers found new markets for their produce as the mills multiplied in the wilderness; and everyone profitted from the increased earning capacity of many who previously had no margin to purchase anything but absolute necessities.

Prosperity in the Wake of the Steamboat

Thus, power brought prosperity to New England; but, where power was lacking, there was still poverty. Take the settlements along the Ohio River in the early part of the nine-teenth century as an example. Here were rich farm lands and timber and minerals in abundance, but what could the settlers do with these things beyond keeping themselves alive?

The one outlet for their products was the Ohio-Mississippi River system, on which goods could be floated down to New Orleans by means of rafts. But the rivers could not be navigated in the reverse direction with any craft much larger than canoes, so that little of importance could be brought back. All necessary manufactures, such as tools, guns, and ammunition, had to be transported by horses from the east over the Allegheny Mountains. As a result, the settlers received little for their output and paid all the traffic would bear for their supplies.

But power, in the form of the steamboat that could ascend a river as well as descend it, removed the restrictions to trade and opened the doors of prosperity for this entire region. In 1815, the first steamer puffed up the Mississippi, and by 1819, Cincinnati had sufficient population to secure a city charter.

In the South, the most inefficient form of power ever used regularly by man—the negro slave— brought wealth to a small minority, but interfered with the introduction of better forms of power. Hence, the South as a whole remained comparatively poor until power in a new form became widely introduced.

The Industrial Revolution

Waterpower as used in these early days was, of course, directly connected to its work, and under these conditions, though far superior to hand labor, it had its disadvantages. It definitely fixed the location of the factory using it, and it could not be employed for transportation. The steam engine, however, is not thus limited, and its general introduction into the United States for manufacturing, railroad operation, and navigation brought about those great changes that constitute the Industrial Revolution.

Production per worker increased enormously. A flood of machine-made products of every description lightened the burden of labor in countless homes. Wages began that upward movement which has continued with accelerating rapidity ever since. Capital accumulated rapidly. The great reaches of the North American continent were laid open to habitation and its vast resources were made available for use. Cities sprang up wherever conditions were especially favorable for manufacturing or trade.

Steam Power Built Cities

City building was, in fact, one of the outstanding features of this period.

The railroad and the steamboat are natural city builders. They make centralization possible by providing excellent long-distance transportation for raw materials and finished products ; and they encourage it by making certain selected places of specially easy access.

Commercial interests promptly sought the strategic centers thus created, and they were followed by the factory, which was now free from the necessity of locating beside a waterpower.

The general rule is that population tends to move in the direction of better living. Therefore, with commerce and industry multiplying opportunities for workers at certain points, and with modern invention making rapid improvements in urban living conditions a drift of population away from our rural districts set in. In 1840, hardly 5 per cent. of our people were city dwellers, but in the census of 1920, over 50 per cent. were so classified.

Electric Development Gives America Industrial Supremacy

In the latter part of the nineteenth century, a new power agency—electricity—came into existence.

Waterpower increased the prosperity of the nation because it was more productive than manual labor ; steam power caused a further increase because it was superior to waterpower ; and electricity has still further added to our national wealth because it represents a marked advance over directly-applied steam power.

It has greatly increased the production per worker ; it has multiplied our resources by permitting us to accomplish many things that were formerly impossible ; it has improved transportation facilities, both urban and interurban ; it has transformed our cities into veritable fairylands ; and it has raised the standard of living to unprecedented levels.

Its use has, in fact, enabled the United States to gain the industrial supremacy of the world.

Most European countries are far behind us in electric development. Our superiority in this respect is largely due to the fact that in America electric light and power systems grew-up without interference on the part of governmental authorities, and, while an excellent method of regulation by state commission was early introduced here, there was nothing in this country to retard electric progress.

Our workmen now have at their disposal an average of 3¾ horsepower per worker, which is about double that available to the workmen of England, the next most highly developed nation. Herein lies the secret of why " the American workmen are able to enjoy better standards of living than any other working people in the world."

It has taken Europe many years to realize the immense gain in production that American industry has secured through the use of electric power, but she is now fully alive to the situation and we can look for rapid electrical developments over there.

But in the meantime, American progress is showing no signs of halting.

What of the Future?

But is this progress to be along the same lines followed during the past century ? And if so, will the evils of our times continue to grow along with the good ?

Will our cities grow ever larger and larger ? Our streets more congested ? Our slums more crowded ?

Are our workmen to become more and more dependent upon highly specialized jobs and increasingly at the mercy of trade conditions ?

Is the drain from our rural districts to continue ? Is the position of our farmers to grow more and more unsatisfactory ? Are they to be the hewers of wood and drawers of water for those who find relief from manual labor by the use of power-driven machinery ?

Are the interests of the various sections of our country to become more and more diverse ? Are the social, economic, and political cleavages between city and country to grow broader and deeper?

If so, will our particular political institutions continue to flourish ? Will not our industrial and commercial structure prove eventually too heavy for its agricultural foundations and give rise to radical innovations ?

Were conditions to-day what they were in, say 1910, it would be a far-sighted man indeed who could sincerely give optimistic answers to these questions. All things at that time seemed tending in the direction of centralization, concentration, and specialization —there were few signs that the tide might turn in some other direction.

A New Economic Era

To-day, however, matters appear to be in a much more hopeful state. There are two recent developments, each involving applications of power, which in my personal opinion point in an encouraging direction. Inasmuch as power applied to production transportation has had a dominant influence on the nation in the past, I believe one is justified in expecting that these new power developments will usher in a new economic era in which many of the defects of the old will be rectified.

The Automobile

The first of these developments is automotive transportation.

After having built up a magnificent primary transportation system—the railroads—we have in recent years turned our attention to the development of a secondary transportation system of even greater proportions. Last year there were registered in the United States, 17,500,000 passenger cars and 2,500,000 trucks, with a total rated power of over five hundred million horsepower, which is several times larger than the total amount of power used for all other purposes in the United States. There were 500,000 miles of surfaced highways over which these cars could readily operate, to say nothing of 3,000,000 miles of plain roads, most of which are practical for automotive use.

To these cars we must add 650,000 tractors, with a total estimated rated capacity of 13,000,000 horsepower, and also the airplane and the dirigible airship. I do not propose, however, to discuss aerial navigation, as it is as yet too new to evaluate its possibilities. I will only say that it promises to supplement the effects of other factors, about which I can speak with more confidence.

The motor vehicle is proving of the utmost value to the industrial worker. It is saving him an incalculable amount of time in getting to and from work, in receiving supplies, and in delivering finished products ; and since much of the time thus saved is being devoted to production, our national wealth is being still further increased.

There is nothing novel in this, however. Every new application of power does the same thing. What is novel about the automobile is that, in marked contrast to the railroad, it is a decentralizing agency. To it, almost all points, whether urban or rural, within its radius of operation are of equally easy access. It can go and it can collect and deliver almost everywhere.

Were one to calculate the amount of territory opened up by the automobile for residential and industrial purposes, he would arrive at an amazing total, for if the radius of accessibility is increased by 5 miles, the area accessible is increased by 100 square miles. Florida, New Jersey, and Long Island—to mention only three conspicuous instances—furnish examples of the automobile's ability to make waste lands useful.

Superpower

The second recent power development of importance is that known as "superpower."

Technically, superpower is merely an extension of well-established practices, but socially it is a new factor.

The first electric light and power plants were naturally located in congested districts where a ready market for their services was assured. Very quickly each system spread to the extreme limits of its community, but until recent years, power lines rarely passed outside these limits because the relatively small demands of thinly populated districts made the construction of lines through them unprofitable. Thus, the full benefits of electricity were for the most part bestowed upon populous centers, thereby intensifying the centralizing tendencies of steam power.

To-day, however, the United States is becoming covered with a great network of electric power lines.

The reasons for this I shall not go into at this time because I believe the general facts of superpower development are fairly well known. The main points are that there are now in existence in the United States over 100,000 miles of high-voltage transmission lines and that this mileage is increasing rapidly. We are, in fact, justified in believing that in the not too distant future, practically every habitable part of the country will be in reach of electric power service.

Power is, of course, essential to industry, and in the past, manufacturing enterprises have tended to concentrate at points which offered, along with other advantages, opportunities for securing abundant supplies of either fuel or reliable electric power. Under extensive superpower development, however, power will be widely distributed, and industries will be free, as far as power considerations are concerned, to locate, roughly speaking, almost anywhere.

Decentralization

There are, as a matter of fact, many pressing reasons for the removal of industries out of congested districts. Rent and taxes can be reduced, living conditions for employees can be improved, discipline can be better maintained with less hardship to the individual, and raw materials can often be secured more readily. There is a widespread opinion among industrial men that the concentration of manufacturing in large establishments has gone altogether too far; and, save in the case of certain industries which require the presence of large forces at one point, the typical factory of the future is likely to contain less than 3,000 or 4,000 people, with perhaps only a few hundred as an average.

The splitting up of large factories into numerous small units is made practicable by the recent advances in standardization and the interchangeability of parts. No longer is it necessary for every part of a machine or utensil to be made at one spot so that all can be fitted properly into the finished product. Standardized parts can now be made in quantity anywhere and assembled anywhere.

Given, therefore, economic pressure to decentralize, and means for its accomplishment in superpower, automobiles, and standardization, the ultimate result appears to be inevitable.

If industrial decentralization does take place, it will mean a check on the growth of our cities. Large cities there will always be, because there are many vocations that can only be pursued at strategic centers and many temperaments that crave crowds. But an analysis of the occupations of the city of New York indicates that a large part of its population might be located lsewhere.

To the industrial worker, decentralization should prove a God-send. The factory town, with all that it implies, will be replaced by the garden community. The cost of living, housing, and transportation, which now cuts so deeply into his income, will be greatly reduced. A new occupation—agriculture—will be opened to any member of his family with taste and aptitude in that direction. On the other hand, his industrial opportunities will not be reduced, for with his car or motorcycle, his freedom of movement to seek employment will be very great.

Bringing Agriculture Into Step with Industry

But what of the farmer?

Statistics are not needed to prove that agriculture has not shared equally in the prosperity enjoyed by American industry and commerce. It is patent everywhere that during the past century the flow of the tide has been away from our rural districts. There are numerous reasons for this, and most of them are connected with power developments.

One of the early effects of the Industrial Revolution was the closing down of large numbers of local industries by the more efficient centralized factories. Many of our small towns, once the busy centers of American life, lapsed into drowsy inactivity.

This immediately restricted the opportunities of the farmer and his family for making a livelihood; and then it did more—it removed the markets for his products to distant points, and, by necessitating the services of many middlemen and much transportation and rehandling, it greatly increased the cost of distribution, to the farmer's detriment. Eventually, his chief customers were great organizations who bought at the lowest possible prices.

The improvement in agricultural machinery, which began in the middle of the nineteenth century, greatly benefitted the nation as a whole, but it helped to depopulate our countryside. Said the Director of the U.S. Census of 1890, "The average farmer can to-day, with sufficient horsepower, do with three men the work of fifteen men forty years ago, and do it better." The surplus farm workers, unable to make a living on the farm and finding few openings in the neighboring towns, were compelled to migrate to the cities.

Of course, the use of improved implements caused a corresponding increase in the farmer's productivity. But, in the meantime, the industrial worker increased his production to a much greater extent, so that the farmer's economic position, though actually advancing, sank relatively lower and lower.

A similar change took place in the farmer's standard of living. The city dwelling of 1800, though perhaps much more richly furnished, had in it little of actual comfort that could not be found in any well-to-do country home. Indeed, owing to the extremely bad sanitary conditions of the city of that time, its filthy, unlighted, foot-pad-infested streets, and the difficulty in securing fresh foods, the balance of good living was decidedly in favor of the country.

But during the past century, scientific research and modern invention have not only remedied these defects of the city, but have created for it undreamed of conveniences, comforts, and luxuries. Country living has also improved, but by no means to the same extent, so that the balance is now in favor of the city.

All these things taken together have thrown agriculture and country life out of step with industry and city life; and, though our farmers are actually better off than they were fifty years ago, they are less prosperous than most other classes of Americans.

With perfect justice, the farmer is loudly protesting against this state of affairs and is vigorously trying to find some way out. I personally think that he will be unable to do so through legislative fiat, although there are undoubtedly certain conditions that laws can remedy for him; but I firmly believe that he will find his lot greatly improved under the new order of things.

The coming of the automobile was the first sign of this new order to the farmer. In 1925, there were owned on farms in the United States, 3,900,000 passenger cars, 400,000 trucks and several hundred thousand tractors. The way in which the farmer is using this motive power to increase his production and make life more agreeable for himself and his family is too well known to need comment.

However, the more the farmer increases his production by the use of power-driven machinery, the fewer farmers will be needed to feed the nation, for man cannot increase his consumption of food indefinitely as he can his use of manufactured articles. This process will help individual farmers, but it will increase the tide of migration to the city unless something happens to counteract this tendency.

This industrial decentralization gives promise of having counteracting effect; and, if it does take place on a wide scale, it will build up our outside-the-city population again, revive town life, and bring back that contact of industry with agriculture which was formerly so advantageous to the farmer.

Decentralization of industry will also help the farmer in a new way.

The chief obstacle to the electrification of our farms is the high cost of bringing electric service to them. It usually does not pay to tap a high-tension line and build low-tension connecting lines to take care of the relatively small demand of a few scattered farms, but it frequently does pay to do these things to serve an industry; and, when once a service connection is made and a line is built, neighboring farms can then be supplied with electric power from the same connection. Hence, as small factories multiply in rural districts, more and more farms will be electrified.

Two years ago, no orthodox electrical man would have dared to prophesy the general electrification of American farms; but so

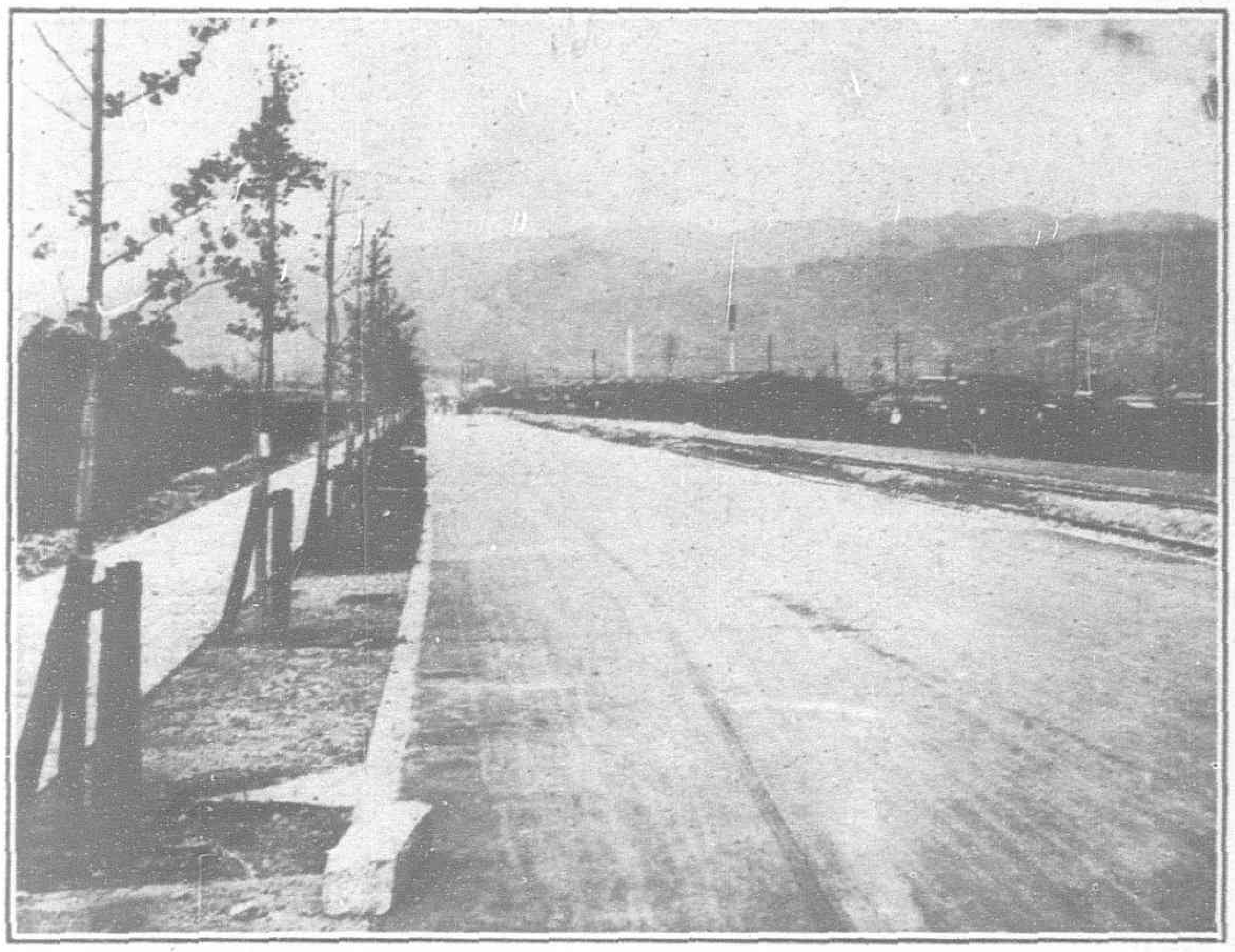
(Continued on page 541.)

Osaka-Kobe State Highway

A 30,000,000 Yen State Highway in Japan

By Eisaburo Kusano

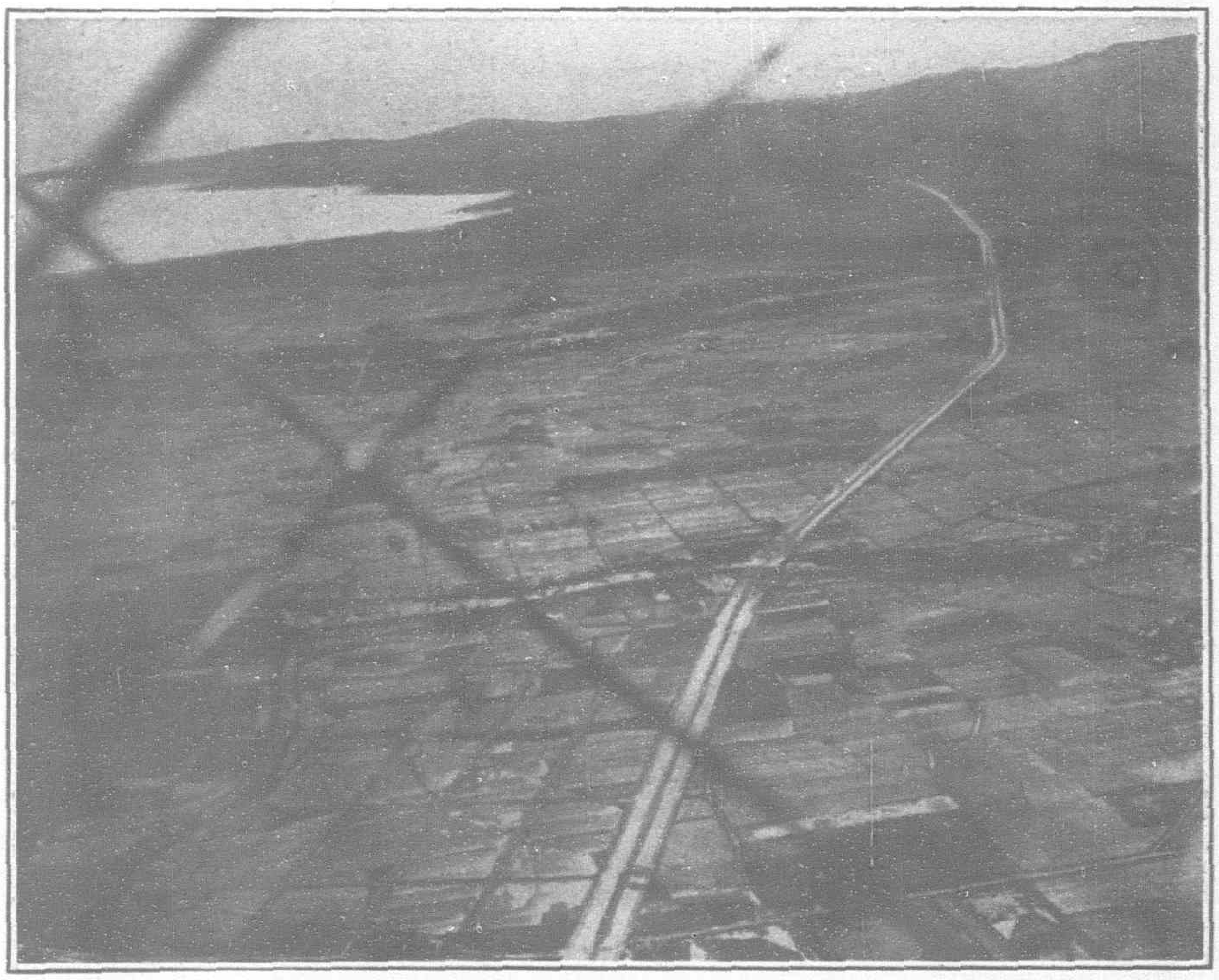
THE Osaka-Kobe state highway, extending to about 16 miles, has been under construction since November, 1922, to be completed sometime in the early part of 1927, under the joint auspices of the Osaka and Hyogo Prefectural Governments. Of this total distance, about 14 miles of the highway is being built by the Hyogo Prefectural Government, and the remainder of the highway, including the construction of the Yodogawa-Ohashi, or a 2,000,000 yen bridge spanning over the Shin Yodo-gawa (see the August, 1926, number of the *Far Eastern Review*) is being built by the Osaka Prefectural Government.



Complete Suburban Section without Gutter

The phenomenal development of commerce and industry of the harbor cities of Osaka and Kobe, which accompanied steady progress of foreign trade and the increased establishment of factories, has accounted for a remarkable growth of the population in and around these cities; the cities and towns and villages situated between Osaka and Kobe have subsequently been converted into either industrial districts or residential sections. The economic and organic relations of the cities of Osaka and Kobe have thus grown fast closer.

Osaka and Kobe are connected by highly developed modern communications systems; there are the government railway, the Hanshin Denki Tetsudo K.K. (or the Osaka-Kobe Electric Railway Company, familiarly known as "Hanshin") and the Hanshin Kyuko Dentetsu K.K. (or the Osaka-Kobe Express Electric Railway Company, familiarly known as "Hankyu") in addition to many forwarding agencies, which are operating automobiles between these cities; in the sea, the harbour equipment is well furnished, and is being still further improved, not only in Osaka and Kobe, but at the water front of the intermediate districts, particularly at Amagasaki.



Aerial view of the Osaka-Kobe State Highway; black line in centre is the double-track tramway to be built by the Osaka-Kobe Electric Railway Company; the black lines which hem the road are the side-walk.

This picture was taken form an airplane in the neighbourhood of Amagasaki, looking toward Kobe, showing the Yomo-gawa River (this side) and the Muko-gawa River, (farther).

All the pictures and maps, illustrating this story were given to "The Far Eastern Review" Mr. Mizoguchi, chief of the Nishinomiya Kocisho, the head office of the Osaka-Kobe state highway.

But there has hitherto existed no adequate road running between Osaka and Kobe. The No. 2 state highway, which has hitherto been the only decent road connecting the two cities, is a narrow, straggling, ill-conditioned road, and the bridges on this highway can hardly bear any heavy burden. The construction of a better state road has thus become the question of the utmost importance, not only from the commercial and industrial necessities, but also, from the view point of the militaristic activities.

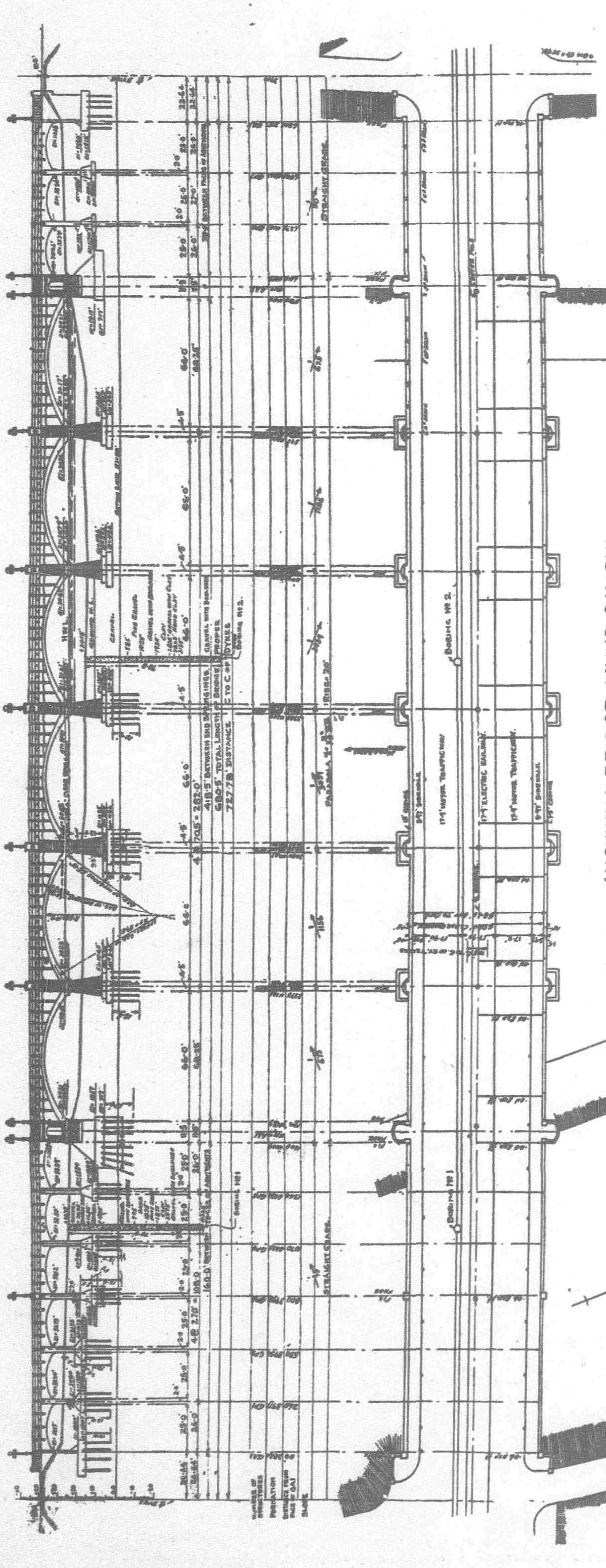
The Osaka and Hyogo Prefectural Government, under the circumstances, jointly drafted plans of improving the No. 2 state highway, and later, plans of constructing an altogether new state highway between Osaka and Kobe, and asked for the government subsidy in this connection. The government decided to bear the one-half of the entire cost of construction of the Osaka-Kobe state highway, and introduced the bill in the 41st session of the Imperial Diet, and obtained its approval.

The working plans of the road construction was revised and improved for several times before the work actually started in November, 1922, simultaneously at Nishinoda, Osaka, and Iwaya, Kobe, under the auspices of the Osaka and Hyogo Prefectural Governments respectively.

Highway Building by Hyogo Prefectural Government

Prior to the commencement of the state highway construction, the Hyogo Prefectural Government made actual survey on five different routes, in consideration of the present-day conditions, and of the future facilities. As a result of careful comparative study of these five lines, it decided on the present route, and subsequently obtained the approval of the Department of Home Affairs, in November, 1920.

The construction work of the Hyogo Prefectural Government begins at the southern bank of the Samondono-gawa, upper stream of the River Kanzaki-gawa, and ends at the outer boundary of Kobe city, the total distance extending to 12,231 ken (one ken



HIGHWAY BRIDGE MUKO-O-HASHI
OVER
THE MUKO-GAWA BETWEEN NARUO-MURA & OSHO-MURA
GENERAL PLAN & ELEVATION

A 500,000 Yen Highway Bridge in Japan

equals six feet) or about 13.89 miles. On its way toward Kobe, the highway crosses over the Fukuchiyama line of the government railway in the suburbs of Amagasaki city, and in addition to number of rivers, it also crosses the "Hanshin" electric railway at Nishinada, near Kobe, and joins the existing state highway.

For convenience's sake, the total distance of the highway under construction by the Hyogo Prefectural Government is divided into four sections; the work of the first, second, and third sections are being carried on under the supervision of the Amagasaki, Imazu, and Ashiya inspection offices, and that of the fourth section is under the Mikage and Nishinada offices. These inspection offices are under the control of the Nishinomiya Koei-sho, which was established in Nishinomiya city, in February, 1920, with Mr. Mizoguchi as its chief. In addition to these offices, there are sub-stations at Oshima, Uchide, and Motoyama.

The construction work is classified into two groups, viz., the urban and suburban sections as follows: (in ken or 6 feet)

URBAN SECTION.

From	To
Samondono-gawa	Yomo-gawa
Imazu (town)	Ashiya-gawa
Sumiyoshi-gawa	Outer boundary of Kobe city
Total distance	7,624 ken

SUBURBAN SECTION.

From	To
Yoko-gawa	Imazu
Ashiya-gawa	Sumiyoshi-gawa
Total distance	4,607 ken

In view of the possibility that a long, continuous city will be realized in the near future bordering along the Osaka-Kobe state highway now under construction, the building of bridges, culverts, etc., is based on the city street construction regulations. Moreover, in preparation for future earthquakes, the earthquake-co-efficient is made at 3,500 in districts neighboring Osaka; this figure gradually comes down until it reaches 2,000 near Kobe.

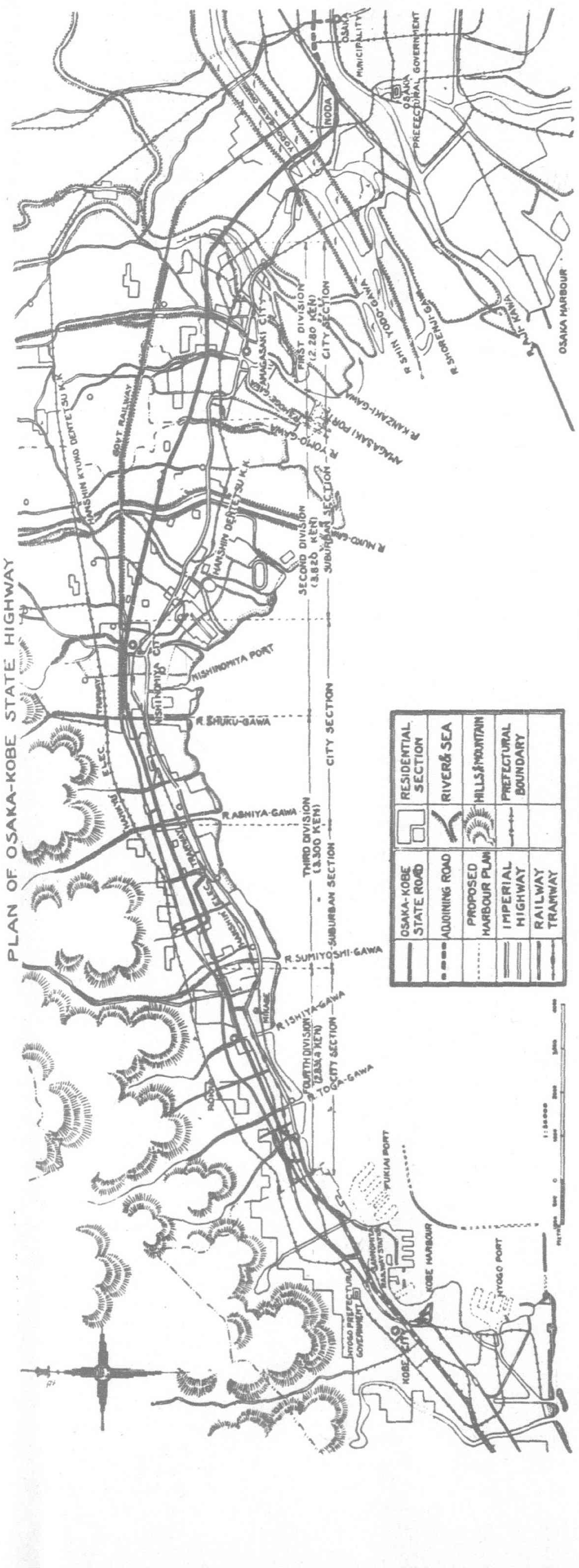
The pavement of the surface of the road extends to 95,000 tsubo (1,200 tsubo equals one acre) or nearly 80 acres, of which up to ¾ were completed in October, 1926.

The width of the state highway is 15 ken or about 90 feet both in the urban and suburban sections. The surface is divided into five parts; the centre is the tramway, the width being 18 feet; on both sides of the tramway runs the drive way, of which the width is 24 feet each; the two extreme ends are side-walks of 12 feet wide each.

In the urban sections, gutters are made between the drive way and the side-walks on both sides of the road; the suburban sections have no gutters, but the drive way and the side-walks are divided by a wall in such a manner that gutters may be created in the future whenever it becomes necessary.

The smallest radius of any curbs on the Osaka-Kobe state highway is 100 ken or 600 feet, and the smallest safety-sight is 55 ken or about 330 feet.

The grade of the longitudinal section varies from 1:30 to 1:400; the grade of the traversal section is: in the city sections, 1:40 on the driveway and 1:60 on the side-walk; in the suburban sections, 1:40 on the driveway and 1:25 on the side walks.



Route of Osaka-Kobe State Highway

At every intersection of the state highway and other roads, the corners are round off in order to facilitate the traffic; adequate squares are made at the frequent intersections.

Street-trees are planted at an interval of about 24 feet. They are mainly maiden-hair trees, which were grown in the neighbourhood of the state highway, and were trans-planted several times at the nursery. The planting of the trees were finished by one-half in October, 1926.

Bridges and Culverts

There are 49 bridges and culverts already built or still under construction on the Osaka-Kobe state highway. Of this total, 42 of them are under the control of the Hyogo Prefectural Government. With exception of the Muko-Ohashi, the Hyogo Prefectural Government has completed the construction of all of these bridges and culverts.

The bridges, of which the length is less than 180 feet, are 90 feet wide, that is, the same width as the state highway, but those of which the length is longer than 180 feet, the width is made 66 feet.

The surface of the bridges with a width of 90 feet is divided same as the state highway, but that of bridges with width of 66 feet is divided as follows: central tramway, 18 feet, driveway, 27 feet each, and side-walks, 6 feet each.

The piers and abutments of these bridges are of concrete or reinforced-concrete; they stand on proper ground work which differs in accordance with the geological conditions. The body of the bridges are either reinforced or plate-girder bridges.

The surface of the bridges is paved with asphalt-concrete on the driveway and cement-mortar on the side-walks, laid on top of the reinforced-concrete bed. Rails are made of stone, reinforced-concrete, and steel; prominent bridges have electric lights on the rails at proper intervals.

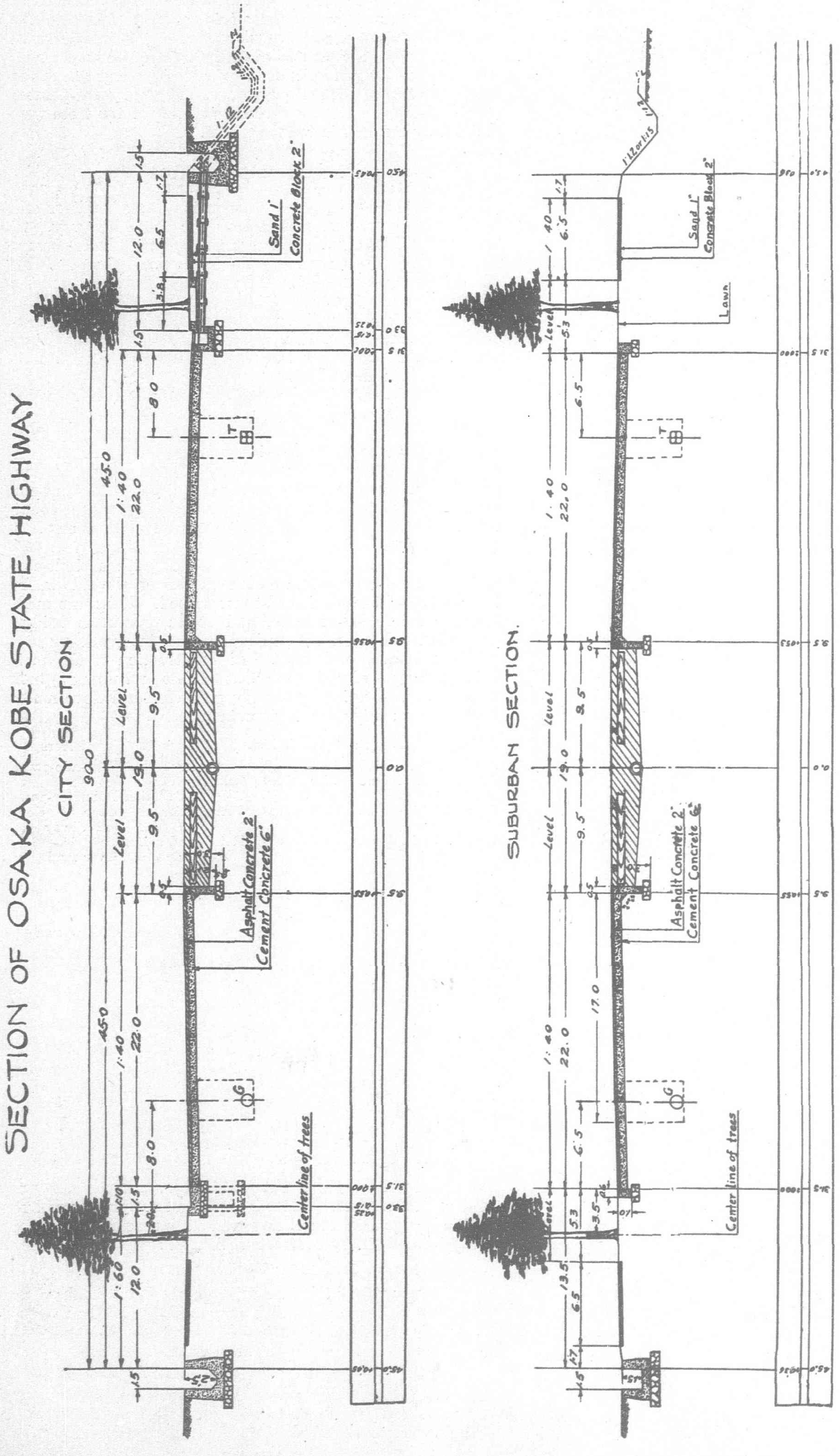
The names and outline of construction of the main bridges (length of which is about 30 feet and upward) built or under construction by the Hyogo Prefectural Government is as follows: (Figures are given in ken or 6 feet.)

Names	Length	Span	Width	Type	Rivers
Samon-bashi	50.0	49.6	11.0	Plate girder	Samondo-gawa
Inagawa-bashi	10.4	10.0	15.0	Reinforced Concrete, T section	Daimotsu-gawa
Bunro-bashi	6.5	6.0	9.0	Plate girder	Over Govt. Railway
Hancho-bashi	7.5	7.2	9.0	Reinforced concrete, slub	Over road
Tamae-bashi	20.4	20.0	15.0	Reinforced concrete, T section	Shoge-gawa
Irie-bashi	12.2	11.7	15.0	Ditto	Yomo-gawa
Muko-Ohashi	114.4	114.0	11.0	Reinforced concrete, T section and arch	Muko-gawa
Tsumon-bashi	4.4	3.9	15.0	Reinforced concrete, T section	
Shimo Mitarai-bashi	6.1	5.8	15.0	Reinforced concrete, slub	Azuma-gawa
Kami Shukuga-wa-bashi	6.3	6.0	15.0	Reinforced concrete, T section	Shuku-gawa
Uchide-bashi	4.2	3.7	15.0	Ditto	Miya-gawa
Narihira-bashi	18.4	18.0	15.0	Ditto	Ashiya-gawa
Sumiyoshigawa-bashi	9.5	9.0	15.0	Ditto	Sumiyoshi-gawa
Ichiya-bashi	5.3	4.0	15.0	Ditto	Ishiya-gawa
Nicdinada-bashi	7.0	6.7	15.0	Ditto	Tsuga-gawa

The total length of the 42 bridges extends to 314.8 ken, or 1,888.8 feet. Minor bridges and culverts were built by the Hyogo Prefectural Government, but some of the main bridges were built by contracts as follows:

Names of Bridges	Contracters	
Inagawa-bashi	Konoike-gumi,	Osaka
Tamae-bashi	Hosono-gumi,	Osaka
Irie-bashi	Obayashi-gumi,	Osaka
Muko-Ohashi	Kashima-gumi,	Tokyo
Narihira-bashi	Obayashi-gumi,	Osaka

In the construction of the Samon-bashi, at the boundary of Osaka and Hyogo Prefectures, one half of the work is under control of the Osaka Prefectural Government.



Section of Osaka Kobe State Highway: Top, City Section; Bottom, Suburban Section

Locomotives, Rollers, Motors, Etc.

Included in the main locomotives, rollers, motors, asphalt plants, cement mixers, etc., purchased by the Hyogo Prefectural Government in connection with the state highway construction are the following:

Locomotives

Two 8-ton locomotives, traction capacity, 1,500 lbs., were purchased in February, 1921, at Y.19,700, and two more of them, in February, 1923 and November, 1923, at Y.8,800 and Y.8,200, respectively from the Nihon Sharyo K.K. or the Japan Rolling Stocks Company.

One Montania S type gasoline locomotive, capacity, 300 lbs. at the speed of 5 miles per hour, was purchased from a European manufacturer in November, 1923, at Y.2,680. Another gasoline locomotive, Minster C type, capacity, 10 miles per hour, was bought in April, 1924, at Y.3,360 from the Minster Company.

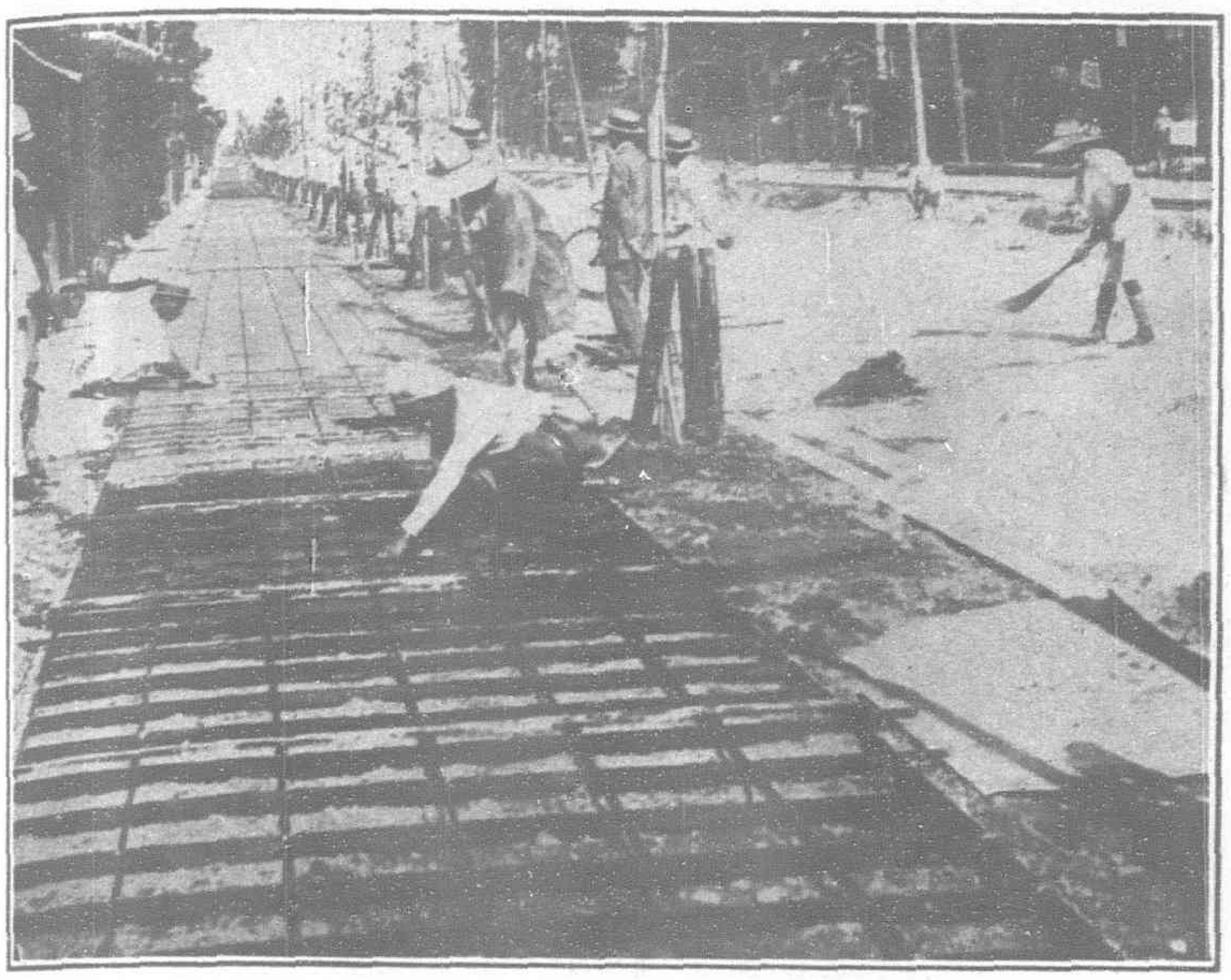
Rollers

Macadam type steam rollers: 12-ton steam roller, 35 h.p. 3 miles per hour, purchased at Y.10,048 in April, 1925, and another of the same capacity, at Y.12,300 in September, 1925, from the Mitsubishi Dockyard 10-ton steam roller, 30 h.p. 2½ miles per hour, purchased at Y.26,400 from a European manufacturer in October, 1921.

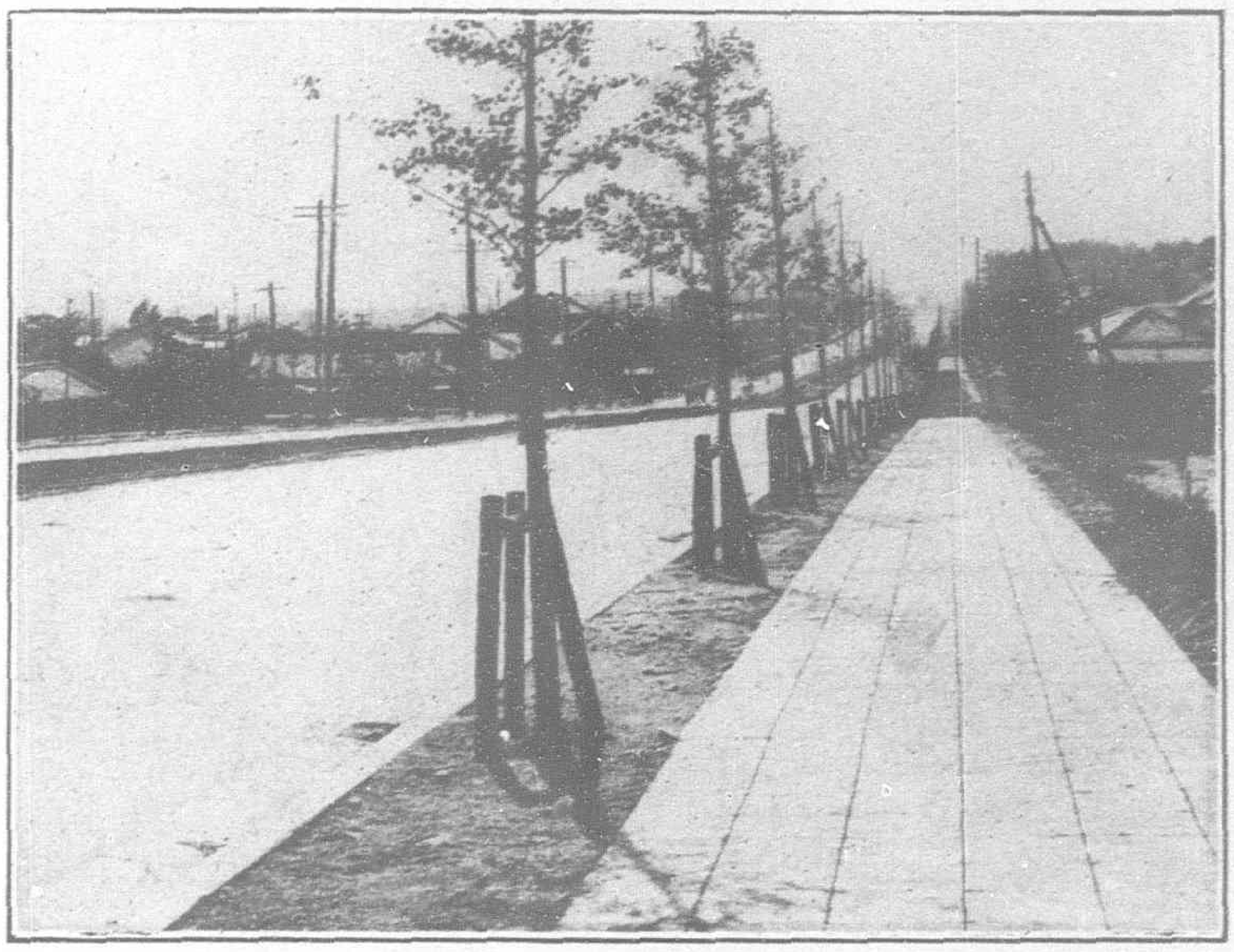
Tandem type rollers: 8-ton steam roller, 22 h.p., 3 miles an hour, Y.8,320 in April, 1924, and 5-ton steam roller, 3 miles per hour, at Y.6,500, in February, 1922, from the Mitsubishi Dockyard. 8-ton gasoline roller, 2 miles per hour, Y.11,200, in March, 1925, from the Barford Parkins Company.

Asphalt Plant

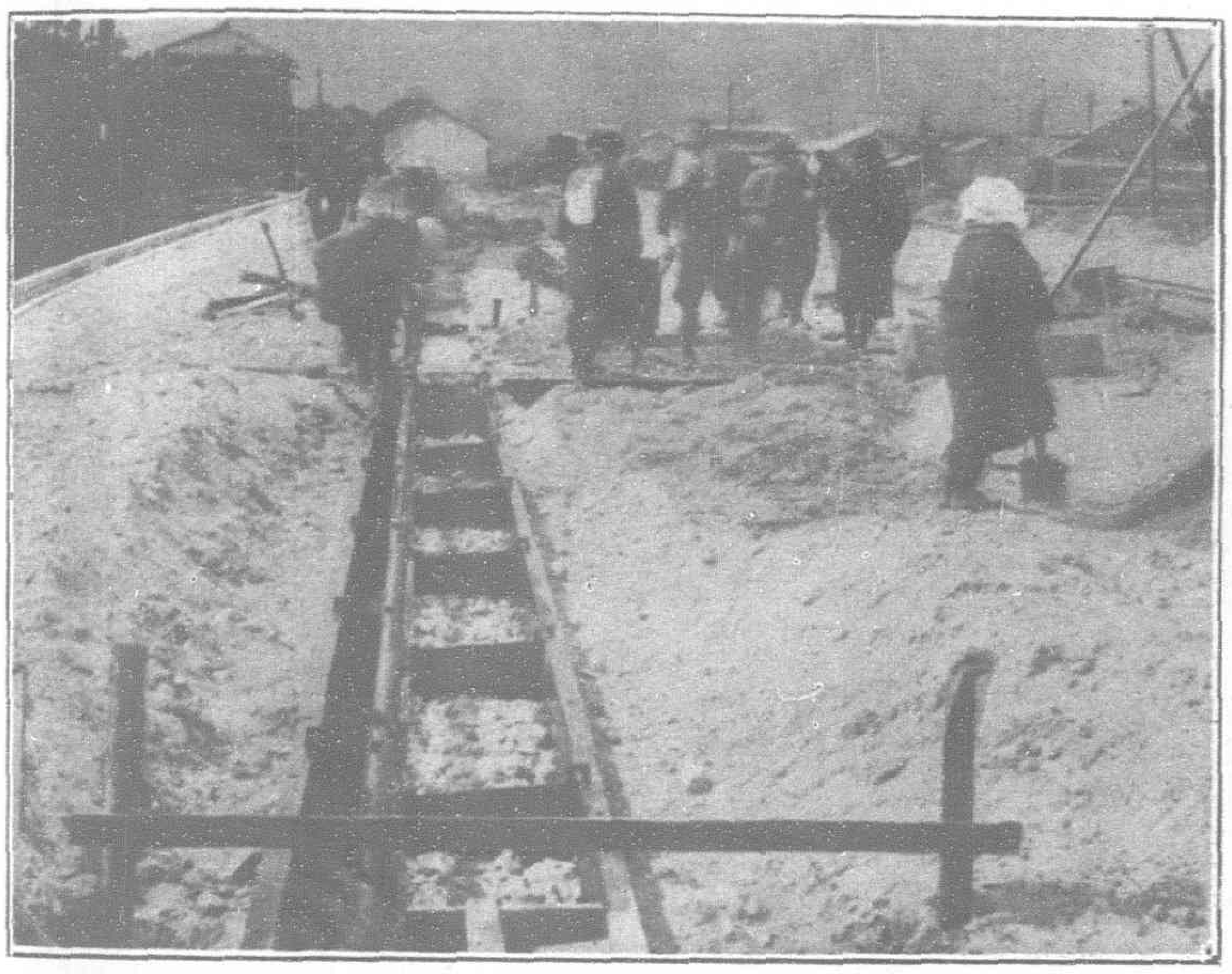
One Iroquois asphalt plant, 800 sq. yards, 16 miles, at Y.47,200 in October, 1924, from Barbar & Co.



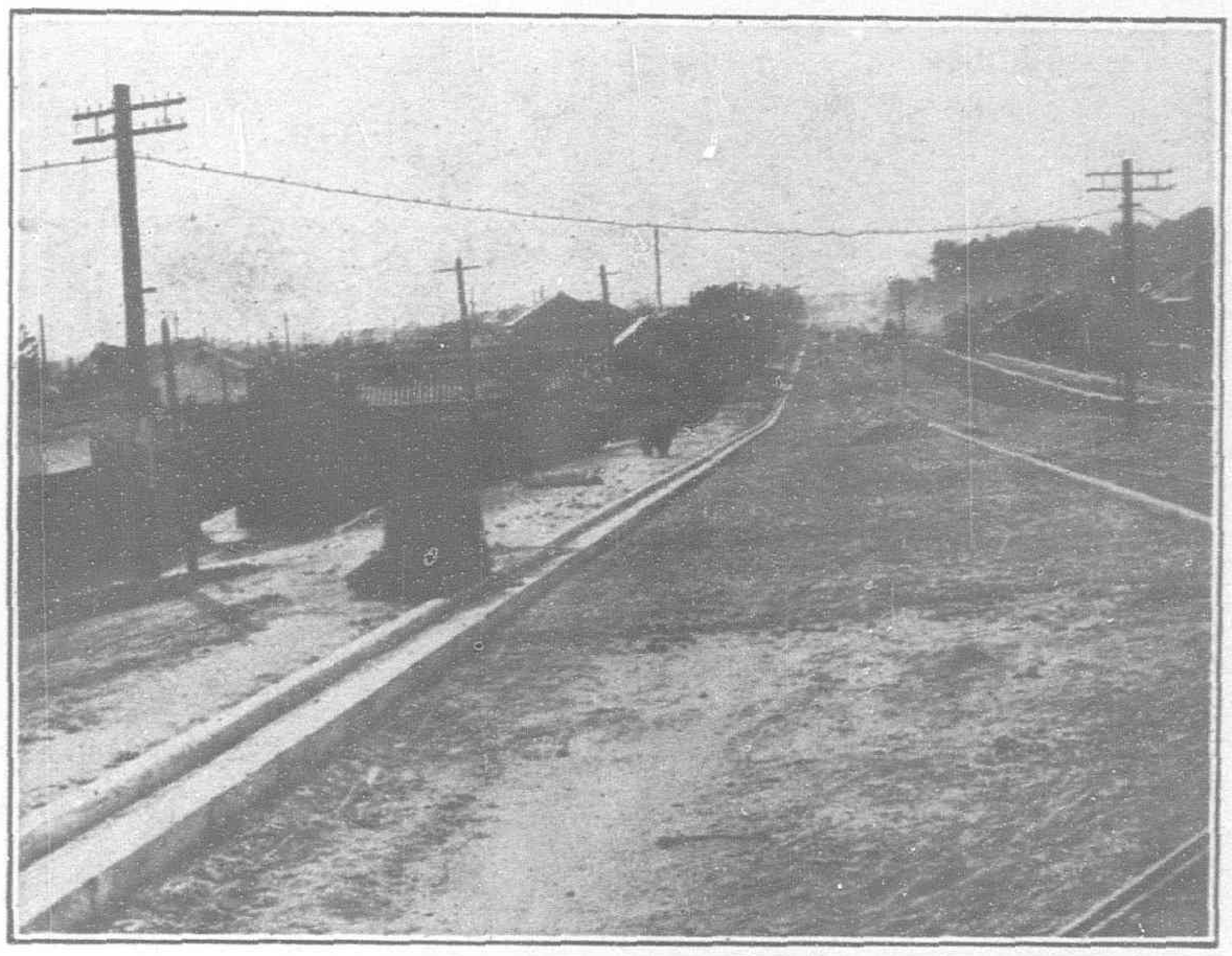
Laying Forms for Concrete Side-Walks



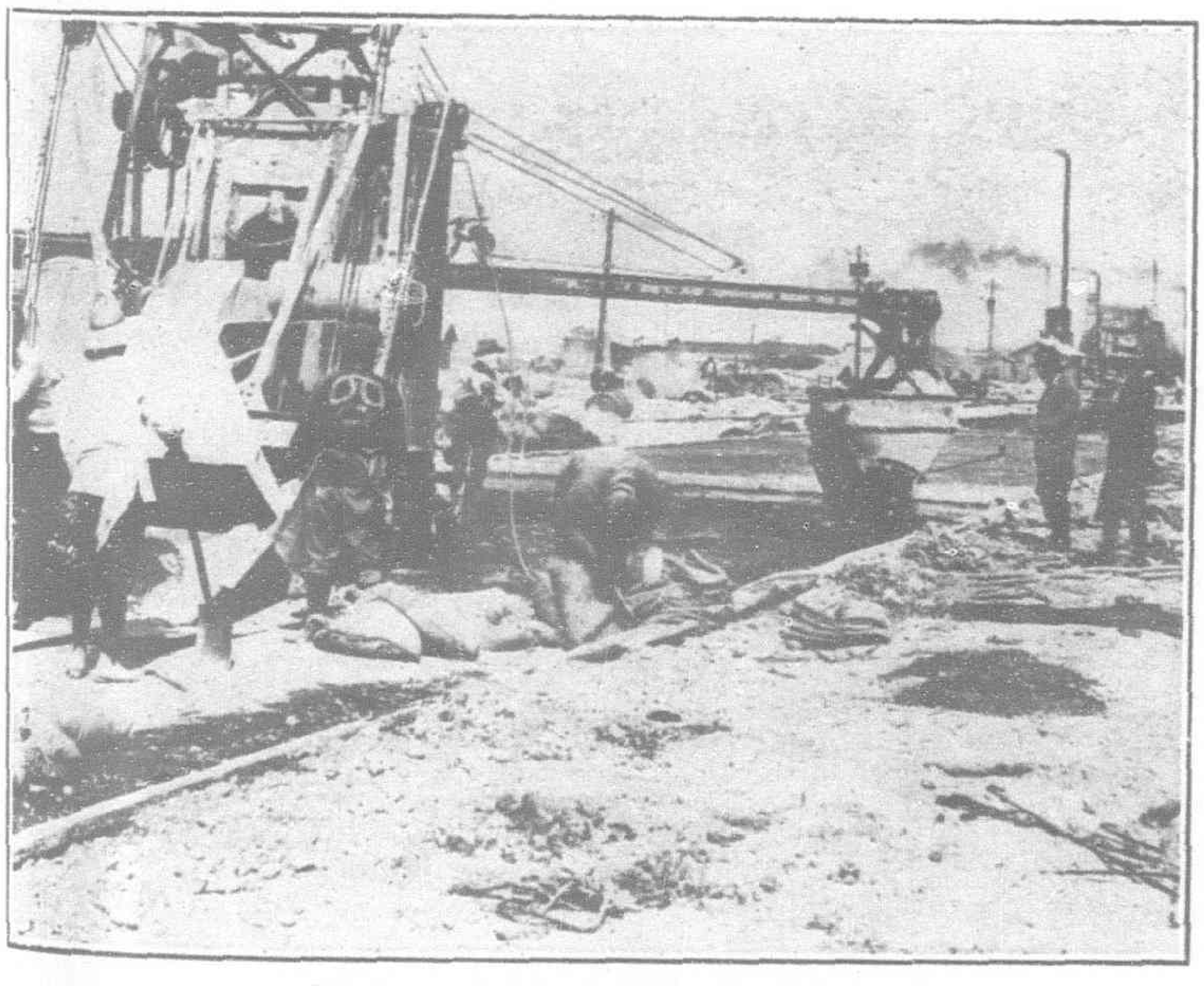
Completed Urban Section with Side Walks and Gutters



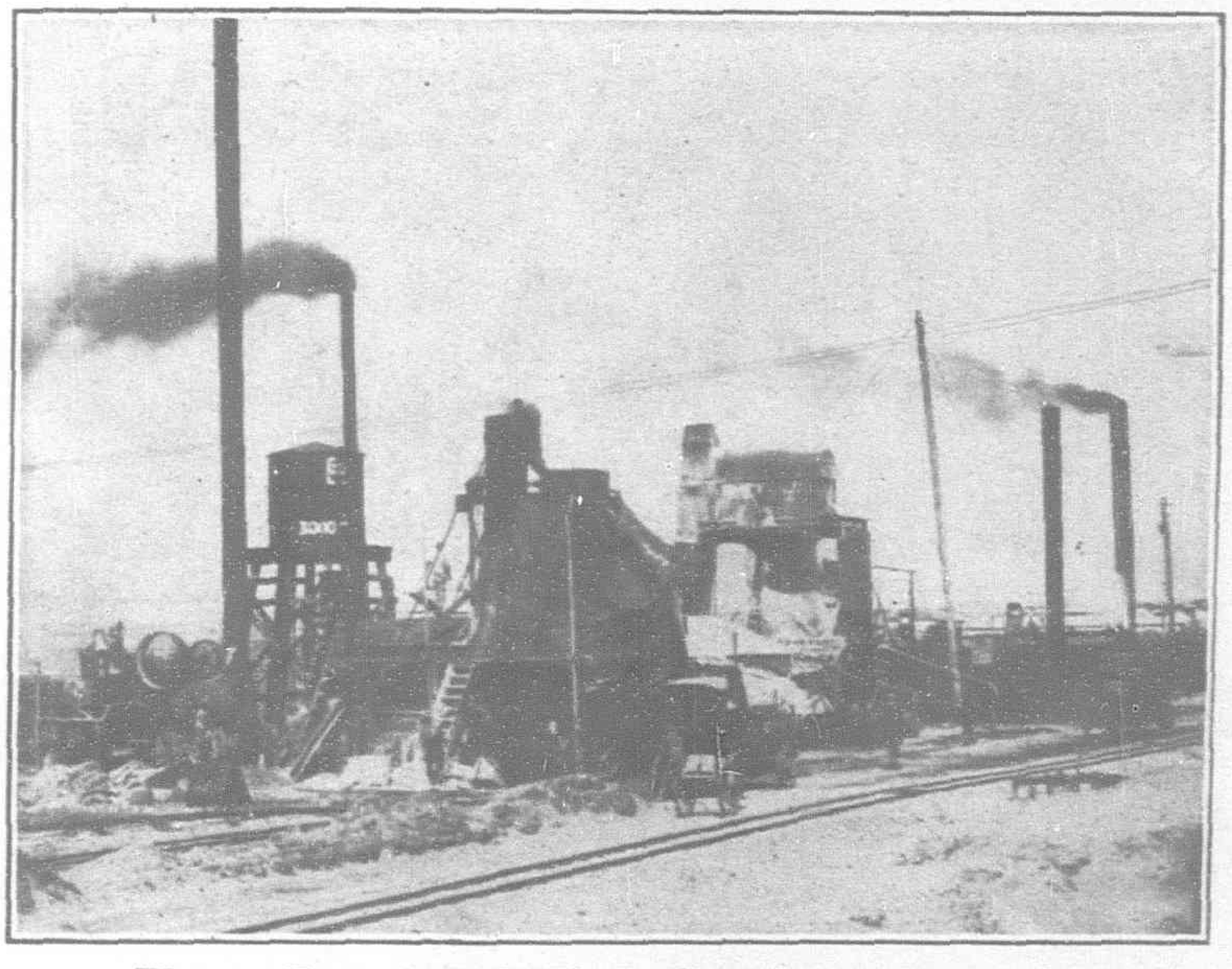
Laying the Iron Mould for Gutter



Completed Gutter

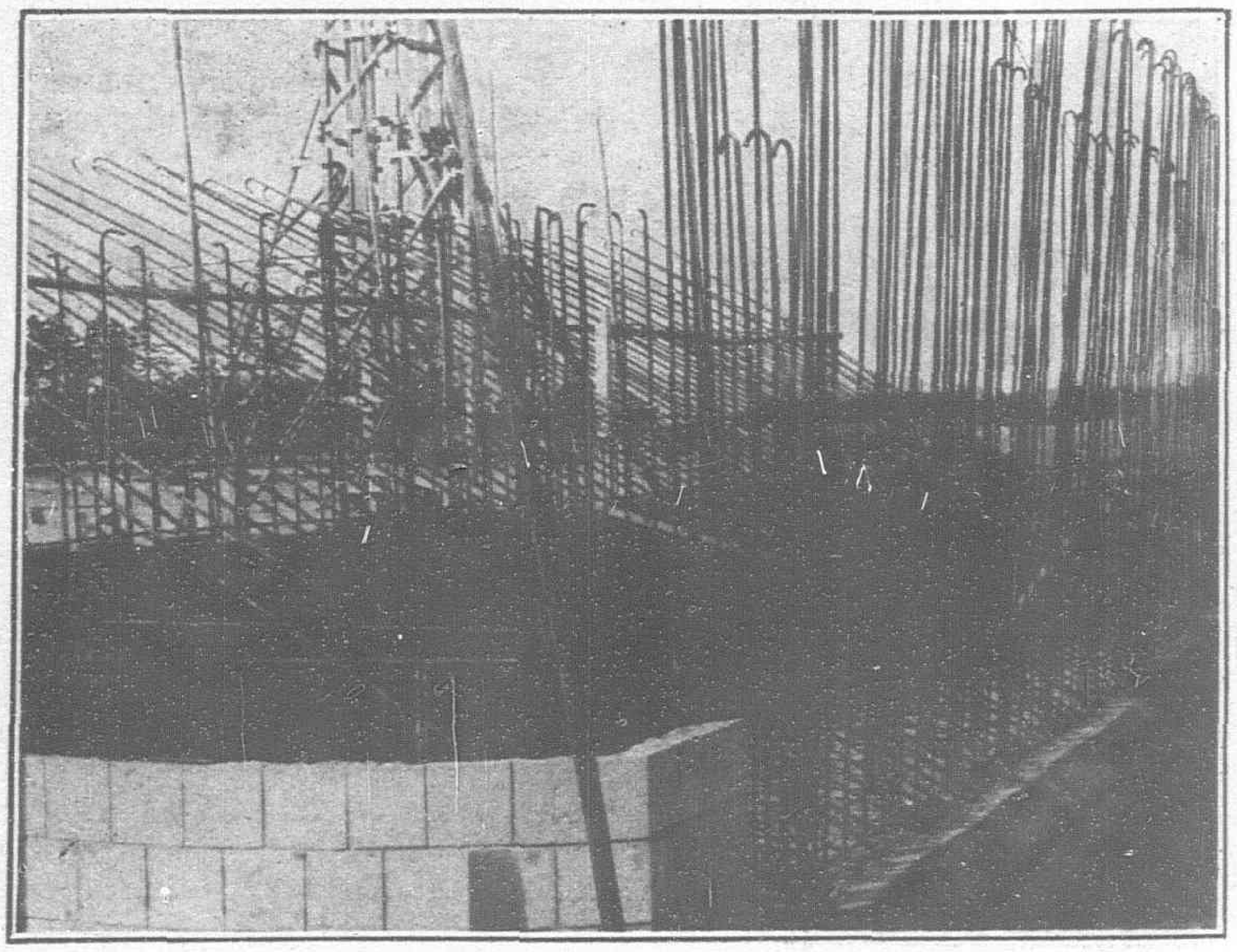


Laying Concrete Foundation

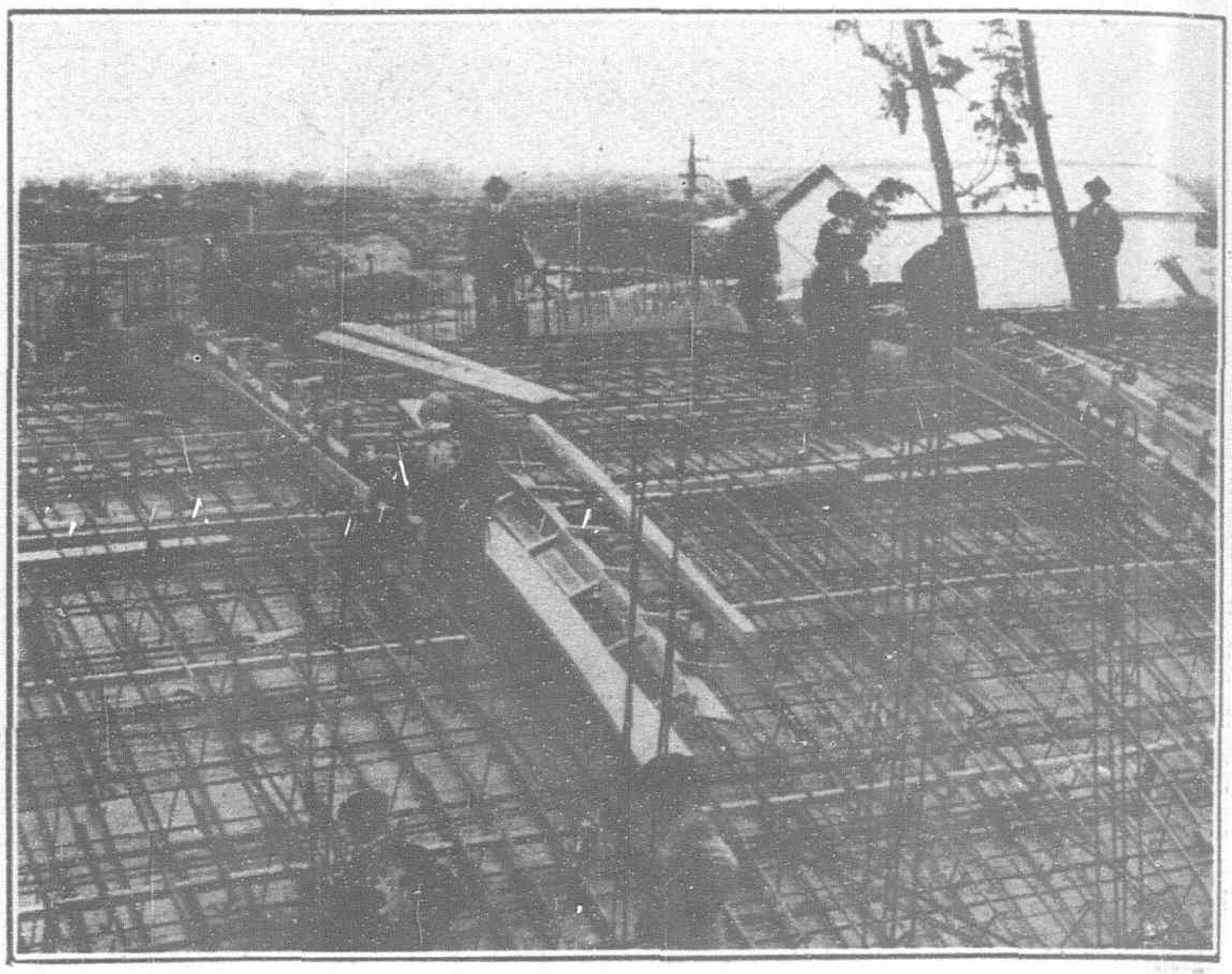


Warren Type Asphalt Plant, Capacity 2,000 sq. yds. per day of 10 hrs.

CONSTRUCTION OF OSAKA-KOBE STATE HIGHWAY

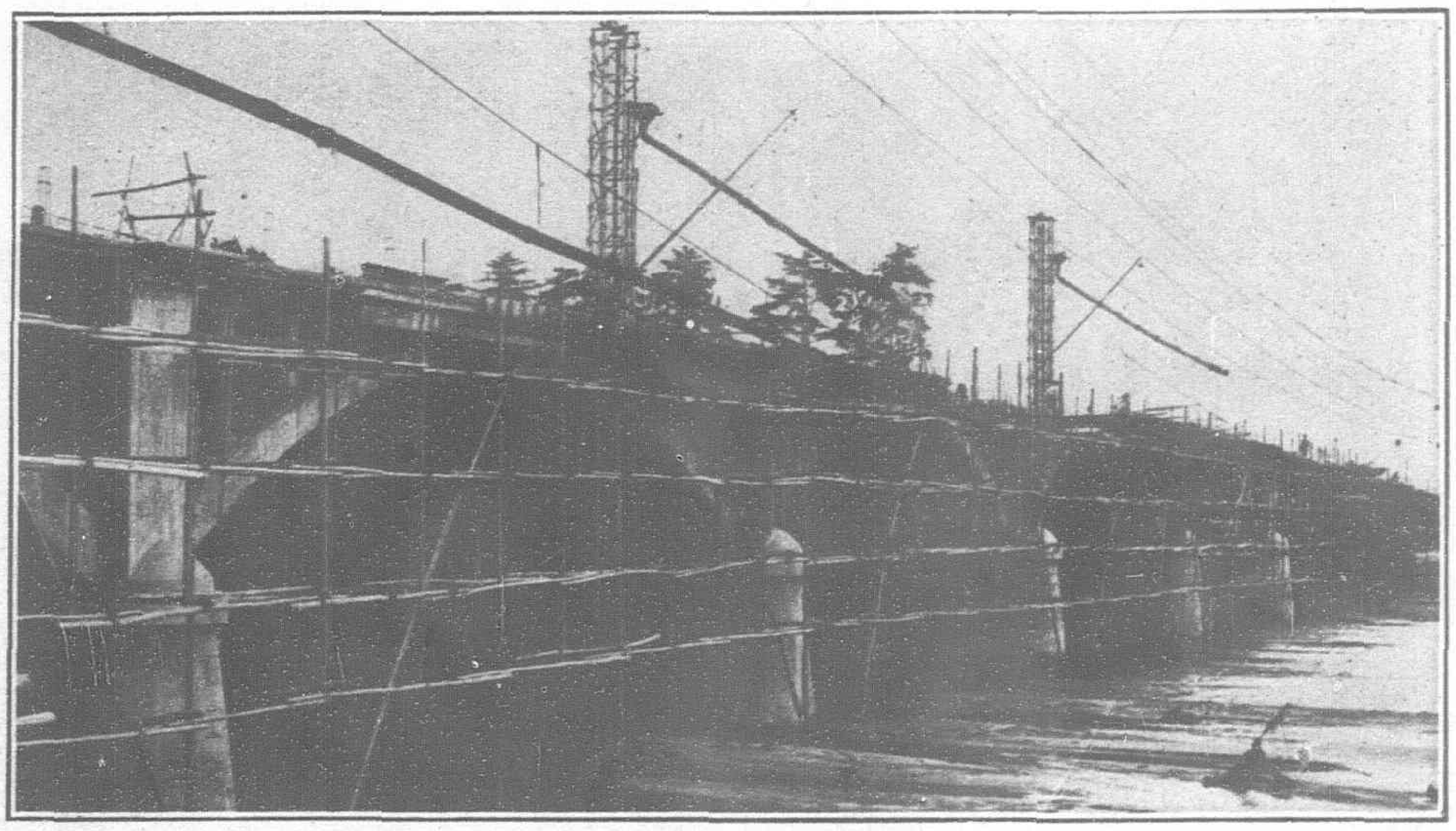


Foundation for Abutment



Reinforcement of Arch

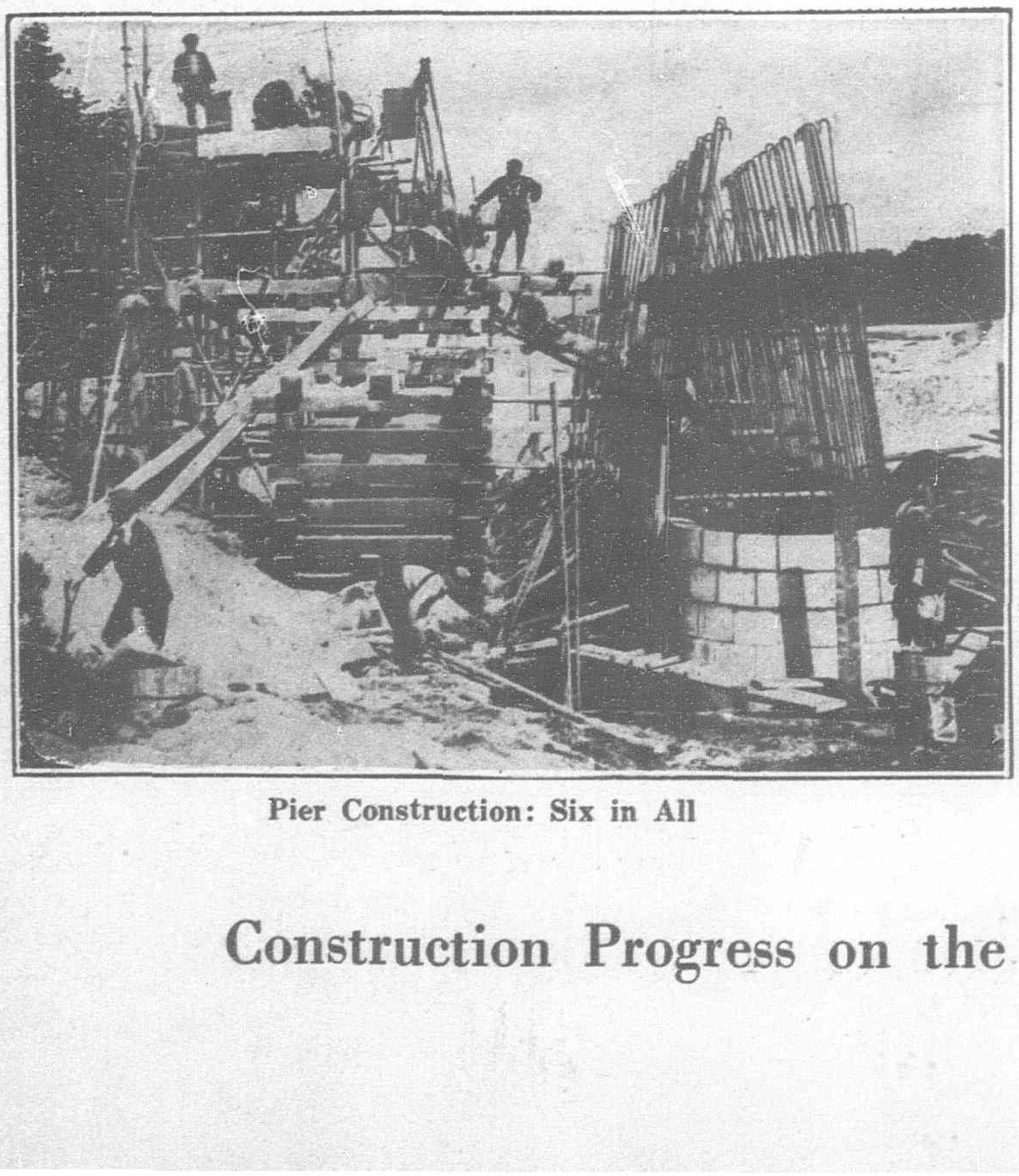
In addition to the foregoing, the Hyogo Prefectural Government purchased tracters (International Company) brake crasher, (the American Road Machinery Co.) roll-jaw crasher, made in Japan, conveyer, number of Ransam cement mixers, gasoline engines of various type and capacity both foreign and Japanese, half a dozen centrifugal pumps made by the Nishijima Works, winches for ground piles, 180 earth and gravel transport-cars, and 19 miles of 20 lbs. rails and 9 miles of 12 lbs. rails.



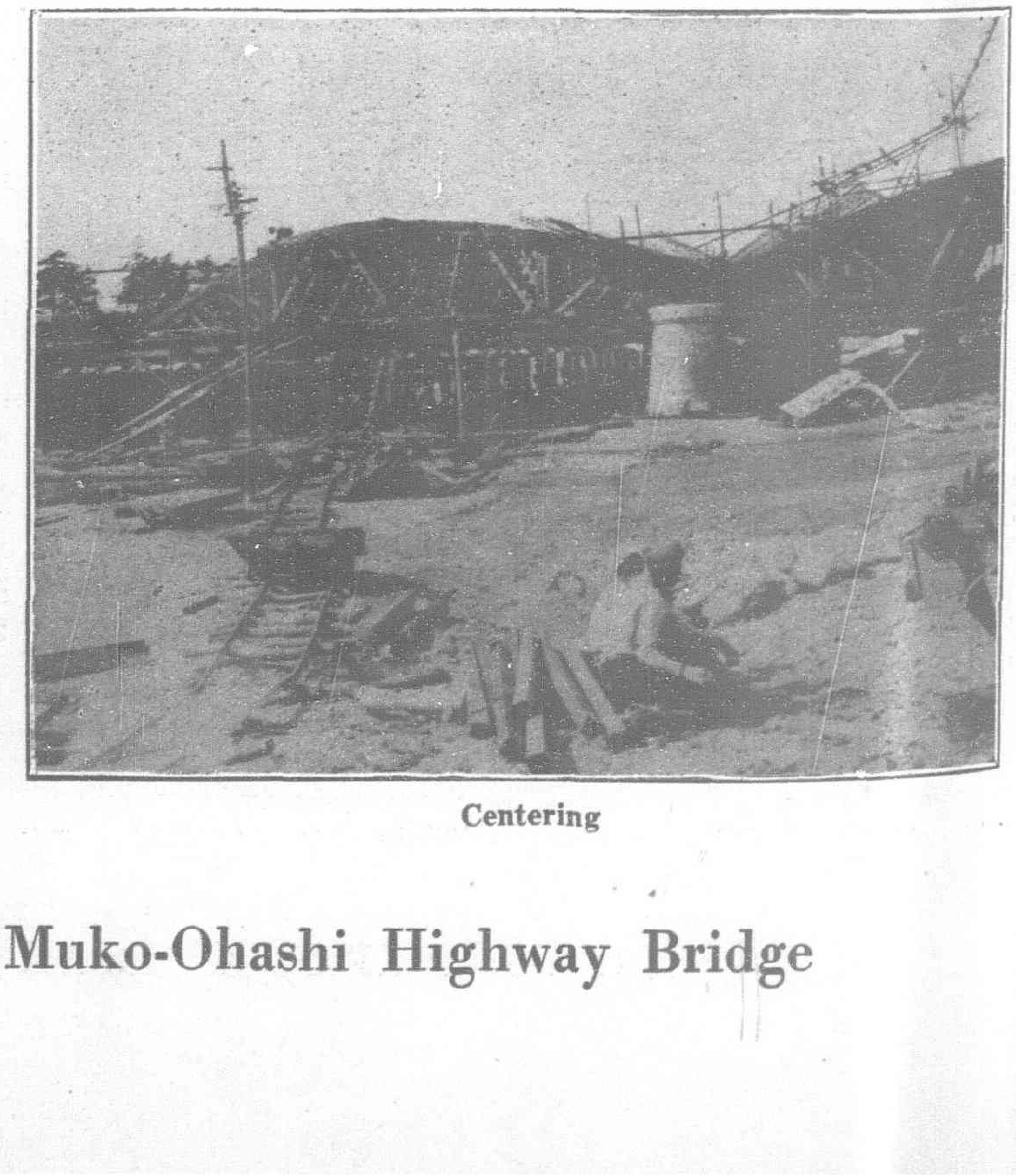
Arches Under Construction

Budget

The estimated budget of the Hyogo Prefectural Government is Y.12,480,000, including Y.4,050,000 for highway construction, Y.1,593,000 for the bridges and culverts construction, and Y.4,401,000 for purchasing required land. Of this total, one-half of the sum is to be borne by the Imperial Government.

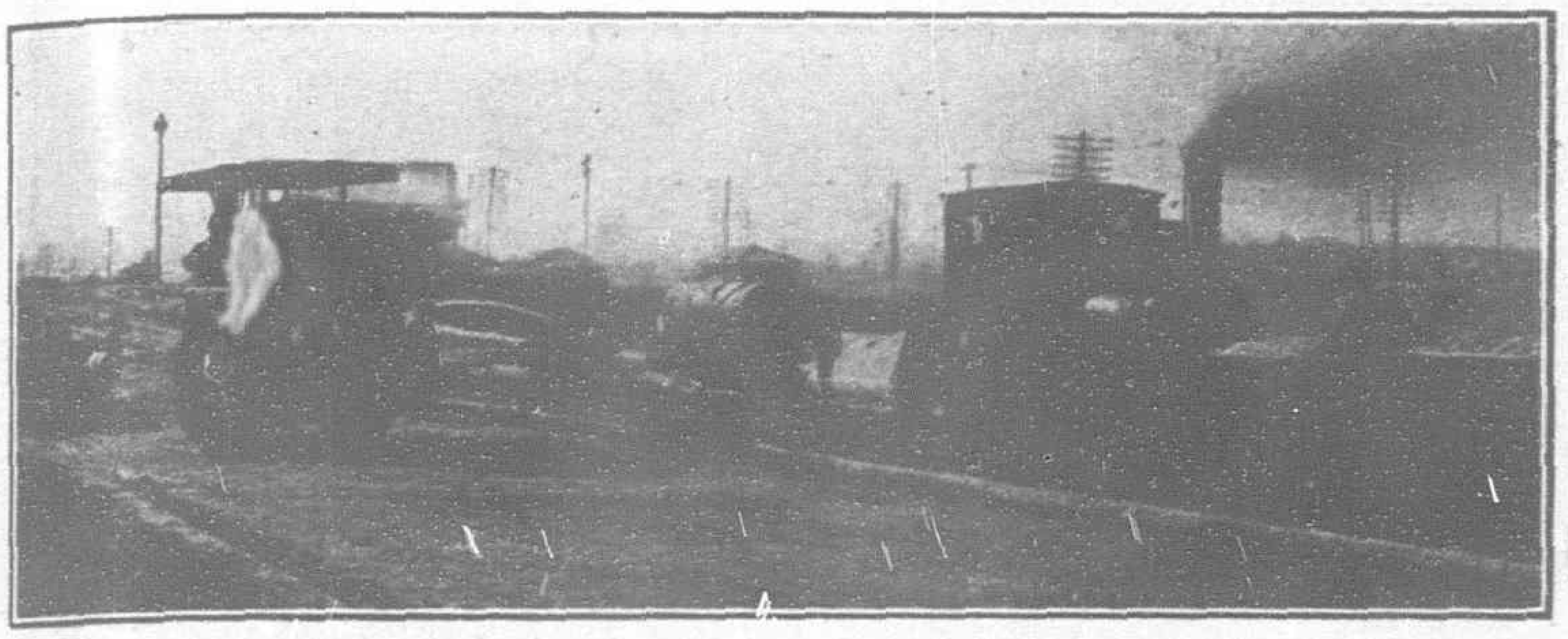


Pier Construction: Six in All

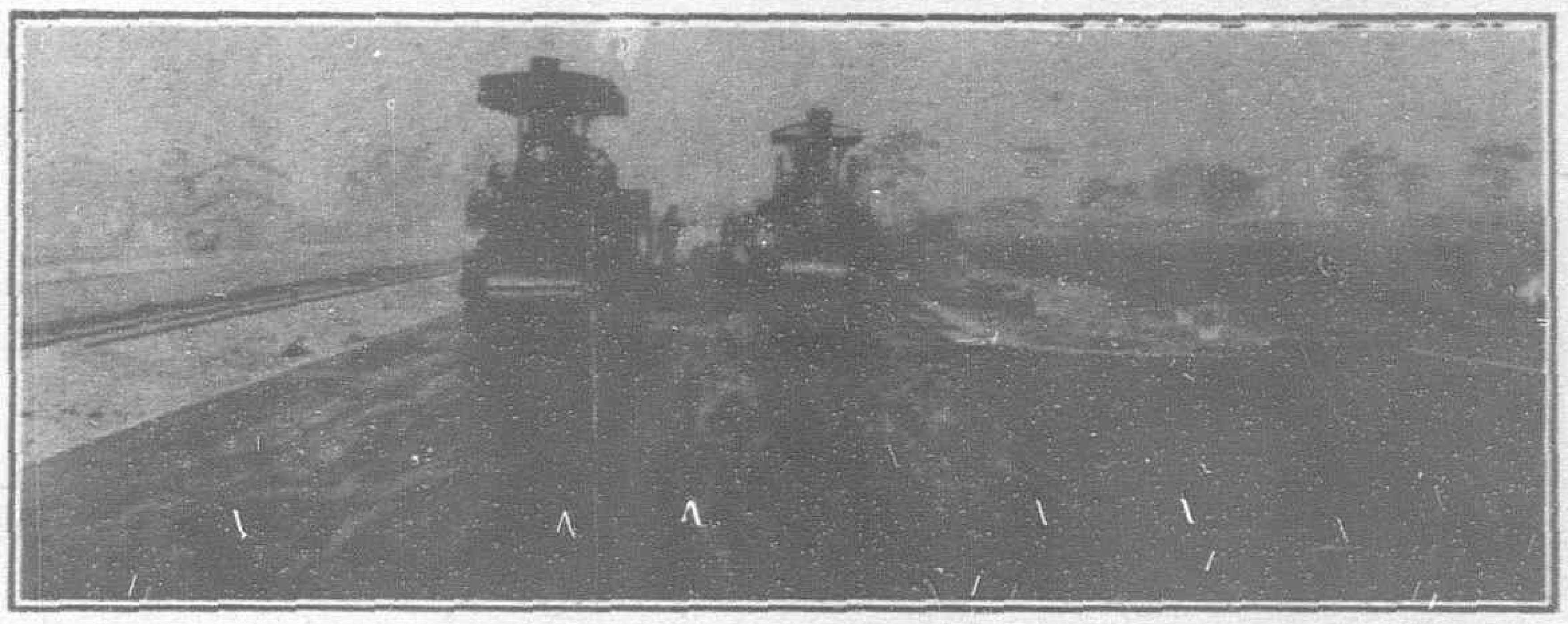


Centering

Construction Progress on the Muko-Ohashi Highway Bridge



Road Rolling and Gravel Transport

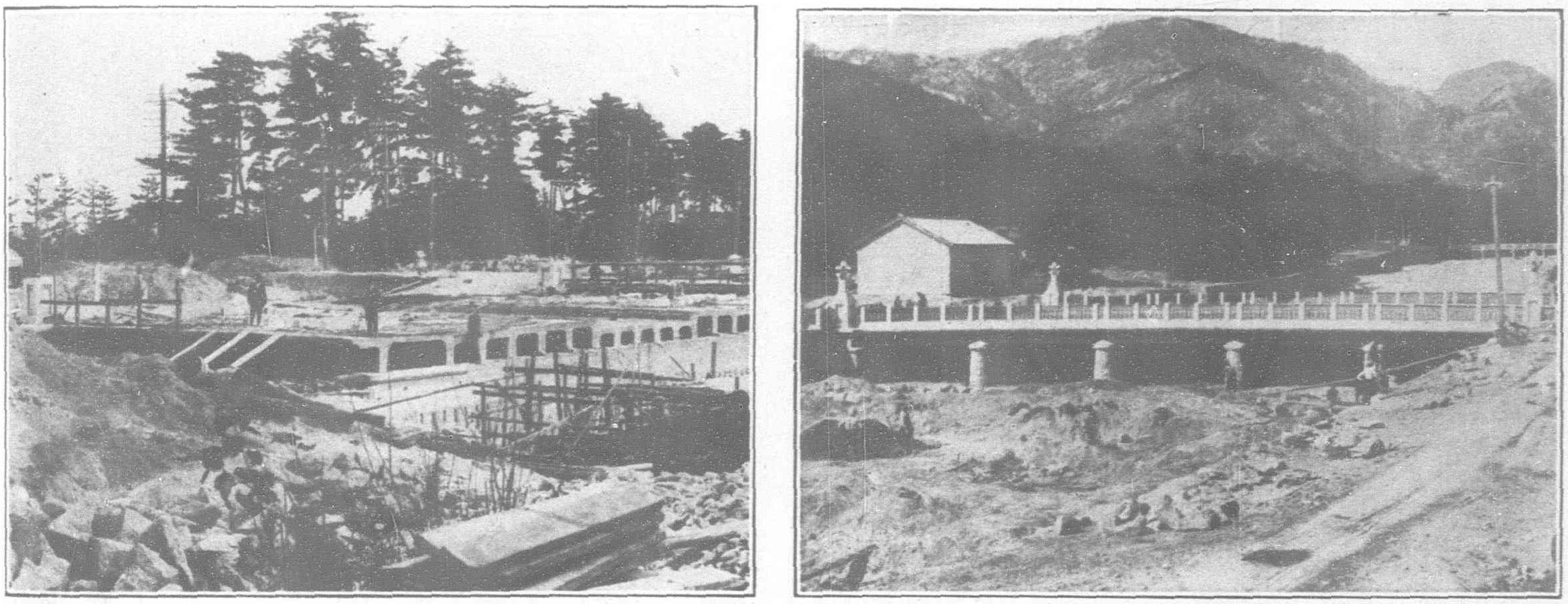


16 Ton Road Rollers: Warrenite, 2 inches thick

Tramway

When the construction of the Osaka-Kobe state highway was definitely decided on, the Hanshin Denki Tetsudo K.K. and two other electric tramway companies in Osaka and the city of Kobe applied for the license to build a tramway on the proposed state highway, and the license was given to the Hanshin Denki Tetsudo K.K. in February, 1923. At the same time, it was decided that the width of the new state highway be extended from the original 72 feet to 90 feet with the arrangement that the Hanshin Denki Tetsudo K.K. bears the extra cost resulting from the extension of the width. As a result, the Hanshin Denki Tetsudo K.K. is to make disbursement of Y.2,180,000 in the section under construction by the Hyogo Prefectural Government and Y.1,180,000 in the section of the Osaka Prefectural Government, on top of the estimated budgets of these two prefectural governments.

The Hanshin Denki Tetsudo K.K. promoted a new electric tramway company named Hanshin Kokudo Denki K.K. or the Osaka-Kobe State Highway Electric Tramway Company, and conceded the license of building the tramway to the new company in March, 1925.



Narihira Bridge over the Ashiya River; Obayashi Gumi, Contractors

Under Construction **Completed**

Business Activity in Japan

THE activity of the Japanese nation, says *The Contract Journal*, has been well shown by the progress made in restoring the damage done by the earthquake of 1923. In that year Yokohama was almost completely destroyed, but so rapidly has building and other work been carried on that it is estimated that by 1928 the city will have been restored to its former condition. About 30 per cent. of the roads in the Customs enclosure have been reconstructed. As the railway lines must necessarily await the completion of the roads, these have not yet been permanently restored, but will be completed at the same time as the roads. Upon completion of all the warehouses and sheds directly connected with the harbour, the effective area of these buildings, which was 200,000 square yards before the earthquake, will be increased to 376,520 square yards. In order to provide the necessary facilities for a commercial port, it was necessary to reconstruct two main canals, of a total length of 9,090 metres, at an estimated cost of 5,612,000 yen. Of this 1,090 metres has been completed, a further 545 metres is in progress, and a contract for 2,182 metres has been offered for tender. Thirty-seven bridges are to be reconstructed, and work is in progress on 15 of them. The restoration of the water supply, which was entirely destroyed in the earthquake, was put in hand at the earliest possible moment, and water was again supplied to the city by September 11, 1923, only 10 days after the earthquake. The Board of Trade *Journal* recounts these facts and adds that before the end of 1925 the water mains were entirely repaired and water was supplied throughout the city. The number of houses supplied on completion of the repairs to the mains was over 70,000, 78 per cent. of the total number of houses in the city limits. The reconstruction work comprises the repair of mains, the reconstruction of a new settling reservoir and of a supply reservior, the installation of supply pipes, the provision of water meters, and the erection of the necessary buildings. The meters are already installed, the supply reservoir is in progress, and the construction of the settling reservoir was begun in November, 1925. Work is in progress on sections totalling 82,540 feet, of which 25 per cent. has been completed at the end of 1925. Plans are in preparation for a further length of 46,351 feet. When the latter section is completed about 25 per cent. of the total drainage work will have been disposed of.

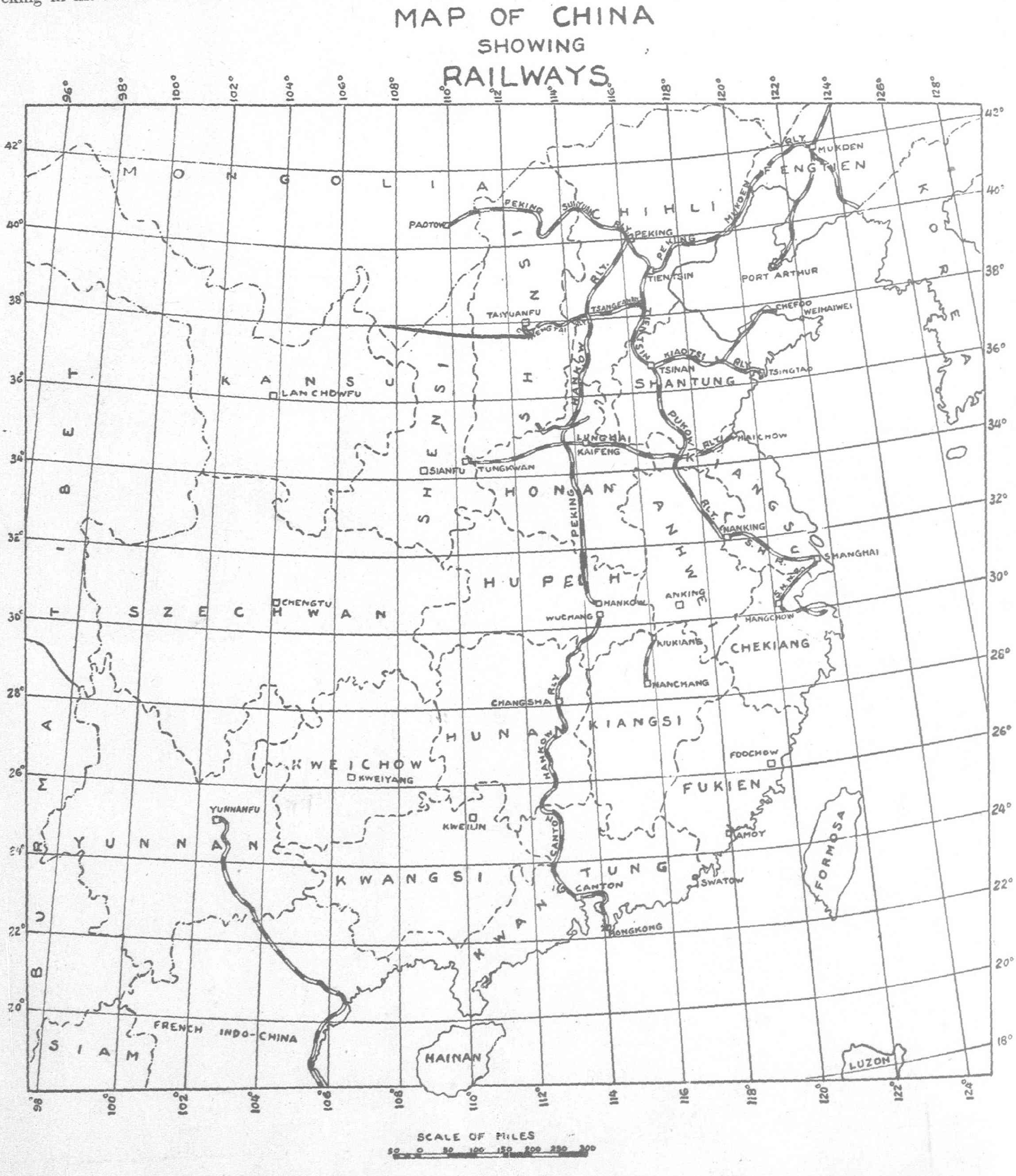
Modern Highways in China

Five Years Progress in Transportation Cheaper than Railways

By Mr. O. J. Todd

(Address given before Chinese Engineering Society, August 24, 1926, and published in "The Oriental Engineer" Mr. Todd is connected with famine relief work.)

As Professor Emory Johnson has recently informed the engineers of Peking in his lectures on Railway Economics, the question of motor roads for China is one of the most vital ones for the present generation of engineers. Though twenty years ago most civil engineers in China were thinking in terms of railways to handle transportation problems, they did not then realize that China was not in a sound position to finance this most expensive type of road



But motor roads are another matter, and there has been considerable development since the American Red Cross during the famine of 1920-21 put about a million gold dollars into road work in the provinces of Shantung, Chihli, Shansi and Honan, in order to give work to the suffering thousands and so that the money for feeding the distressed would not be entirely lost to China.

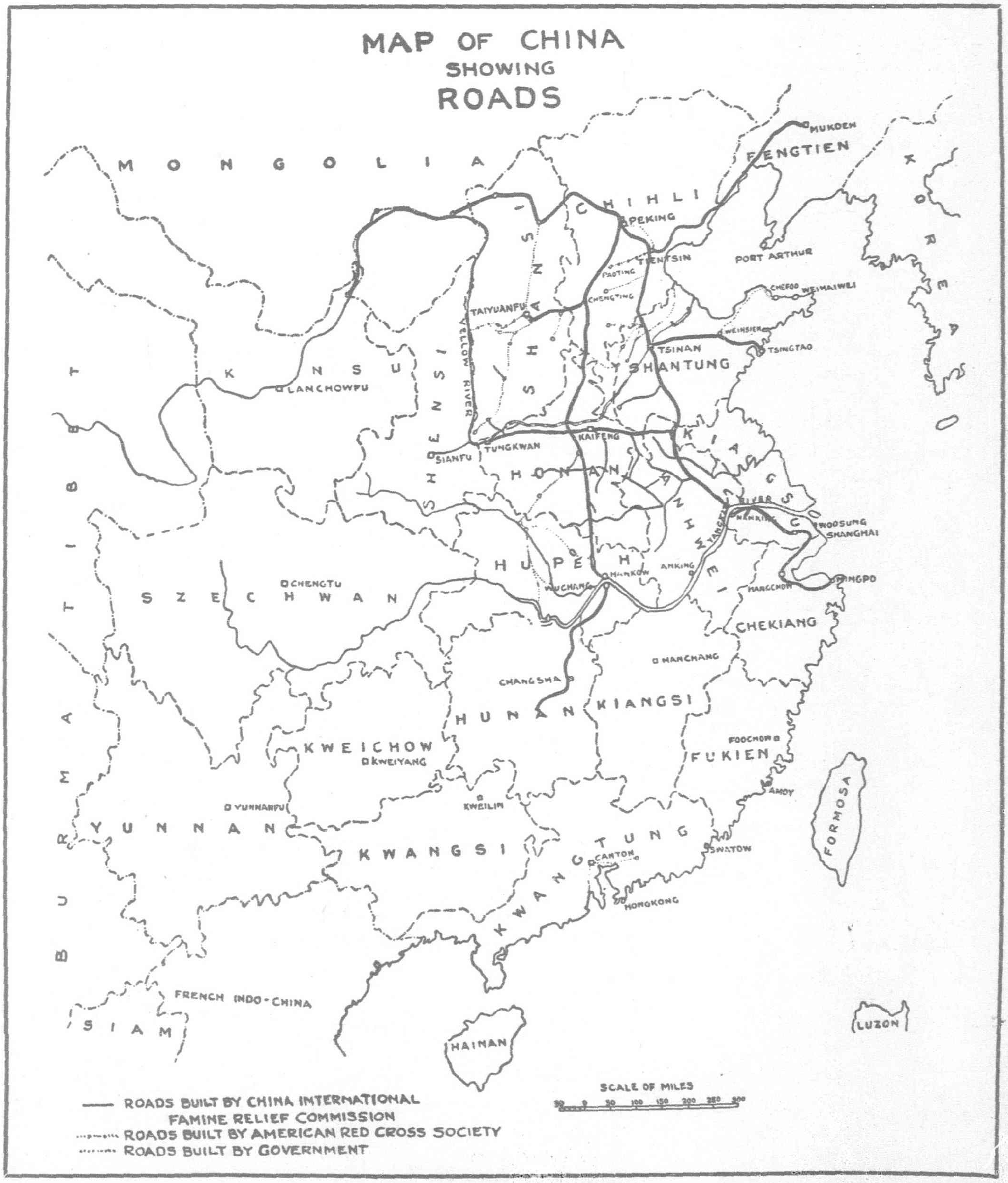
Red Cross Roads

This by-product left by the American Red Cross in the form of nearly a thousand miles of standard earth motor roads was of no small value to China. This network of roads has proved to be a nucleus on which more roads have been built, and it is to the credit of the people of north and central China, acting through their officials and various organizations, that the good roads movement has continued popular up to the present time.

No apology need be offered by those who constructed these earth roads for the quality of the work done back in 1921. They were a great improvement over the old native country roads, which often became pond holes in low places during the rainy season, and elsewhere were long stretches of deep sand. As a rule the highways are built but little above the plain, being raised in places two to five feet and in other places almost none at all. They were generally twenty feet wide. The earth was packed in place and slightly crowned in the middle. Except in extremely muddy weather Ford cars could travel on them at a rate of thirty miles an hour.

Shantung Roads To-day

Improvements have come from time to time, as franchises have been given to motor bus companies, so that now on most of



the Shantung Red Cross roads, Dodge cars, light buses and other motor cars have been running at an average of twenty to thirty miles an hour, carrying passengers between the principal cities.

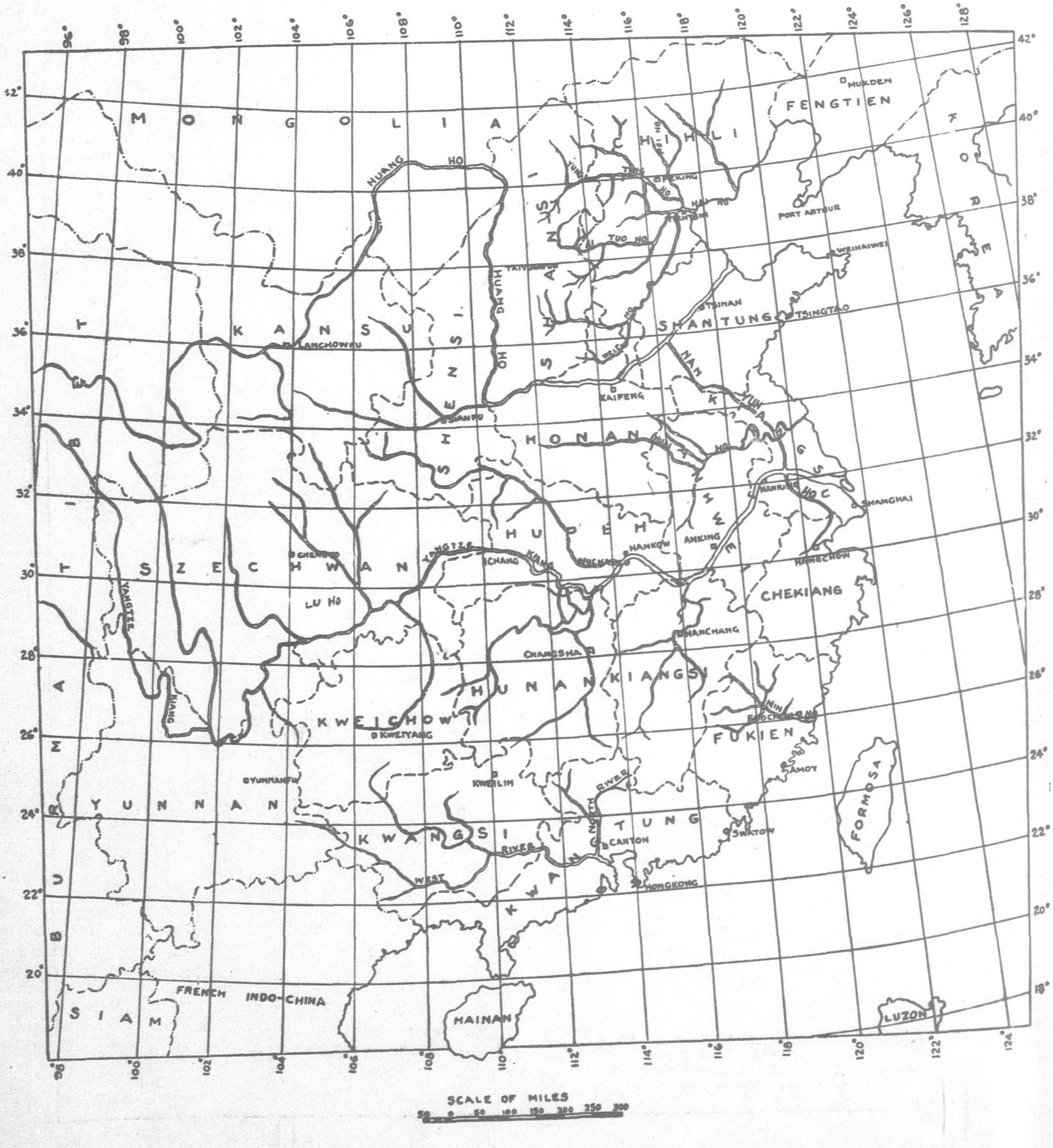
Road Repairs in Shansi

In the province of Shansi particular attention has been given to the extension of this highway system fostered by the Red Cross and the upkeep of the roads built by the government has been uniformly satisfactory. Buses carrying as many as twenty-two persons have been successfully operated from Taiyuanfu, both in a northerly and a southerly direction. Repair gangs are constantly at work keeping these roads in condition for the use of motor cars, ricshas and bicycles. Carts are not permitted to travel on them. To-day the roads built and maintained by the Shansi government are far more extensive than those built in the famine days of 1921.

Roads in Honan

Turning to Honan, we find the work of 1921-22, has borne good results. Where formerly only Ford motor cars could run, now we find heavier automobiles, including the Dodge and

MAP OF CHINA
SHOWING
MAIN RIVERS



Buick, as well as motor buses, operating over a good network of highways, comprising many hundreds of miles. It is true that much of this road is too narrow, not properly graded, and at times muddy due to insufficient drainage, but for the greater part of the year Dodge cars can operate over this whole chain of highways, visiting practically all of the principle towns east of the Kin Han railway in the province of Honan. A portion of these roads has been built by wealthy families who have interests in several adjoining cities in southern Honan. Others have been built by various military leaders who wished to increase the efficiency of their commands, and still others have been built by commercial companies organized to carry on transportation business where railways are not available. All these forces have worked toward promoting the general program of better roads for central China.

Increased Motor Travel

It may be stated briefly that in spite of the protests of farmers in 1921 against the appropriation of their lands for modern roads, the use of motor cars has been increasing in popularity constantly. The merchant class and the officials are particularly anxious to have this mode of transportation extended. As in America and other countries, this latter group has been able to overcome the opposition of farmers who see little good in motor roads, and the contest for right of way is practically won for the motor cars. This does not mean, however, that there will not be opposition in country districts wherever failure is made to compensate land owners for the right of way, but the desirability of motor car service through country districts is now undisputed among those whose business requires that they travel.

Comparative Costs

The excessive cost of railroads and the mishandling of rolling-stock during the continued civil wars have proven very extravagant experiments as compared with motor roads for China in her present state of transport evolution.

A mile of earth motor road can be built on the plains of China at a cost of one to two thousand dollars. The rolling stock is very inexpensive. Bridges can be of a temporary nature for a time and consequently of low cost. In fact, in many places the use of stone paved dips has been found expedient, especially where flashy mountain streams are encountered—where water of any consequence is encountered for only a few hours at a time.

Problem of Upkeep

The most pressing question is that of road upkeep. This has been difficult in all countries, and in America particularly, the tax on the public has been extremely high, due to the heavy loads and the speed employed by the thousands of motor trucks carrying freight over these highways.

In China, it is not motor cars running overloaded so much as the native carts that are destroying the new highways. The very narrow tires on the Peking carts, and particularly the two-wheeled luggage carts of central and north China, wear deep ruts and make travel nearly impossible for motor cars. Where these carts are kept off the roads the upkeep is easy.

Effect of War

But this cannot generally be done during times of war, because the militarists insist on driving their wagons over the most available highways, and naturally they select the motor roads. In some instances, they repair them afterwards, but in others they leave ruin behind them. This problem of road upkeep where military movements are frequent is one of the most difficult for the highway engineer in China to-day.

Engineer's Troubles

As to the task the civil engineer has set himself in extending the transportation system of China, I should like to call attention to one or two of the most serious handicaps. In the first place he does not have a precedent to support him in his work ; that is to say, the engineer trained in modern science is working in a field where his movements are almost entirely new. He is without seniors to share with him the heavy load or responsibility that comes in every nation where innovations are forced on communities that seem fairly well satisfied with their old ways. This newness of the field severely handicaps every young civil engineer in China, and particularly the man who is building highways. The fact that the great mass of people in the country see no great benefit in extension of modern motor roads raises peculiar difficulties that the engineer should not be compelled to face. He at once becomes more or less of a community nuisance because he is taking part in a movement that is unpopular. The majority of peasants think that roads take their land that would normally raise food and leave it idle for the use of merchants, officials and others whose duties are other than tilling the soil.

Dishonest Officials

Added to this obstacle is that of meeting local officials who are frequently of the opinion that they are entitled to profits from all new utilities. It is not the engineer's business to pay bribes for the purpose of carrying his job to completion. He should not be forced to compromise with officials who wish to block his work simply because he has not figured in his estimates any compensation for them. Yet he is forced to face this problem, constantly. His natural recourse is to the support of his fellow engineers and the organizations with which he may be connected. He must be absolutely firm in living up to the ethics of his profession and putting through his program regardless of the many criticisms that will be launched against him by those who wish to profit by his efforts.

In briefly reviewing the difficulties that the field engineer must face in his work of highway extension, it is not intended in any way to exaggerate these obstacles, nor to deter those who would engage in this branch of the profession, but all those who have attempted the work know of the fight that lies before them and of the backbone that is required to carry that work to a successful conclusion.

Not Paved Highways

The matter of more elaborate highways, including macadamised surfaces, may well be omitted from this article, as roads in China to-day are mostly unpaved, just as they were in America thirty years ago. The era of paved roads has scarcely begun except in and near the large cities. It is true that in the mountains of Shansi and in other places where rock is available, roads have been paved without excessive cost, but in the great plains of China, it is unthinkable at the present time except for very short stretches where the traffic may be unusually heavy.

Sand and Clay Roads

To-day we must think mainly in terms of sand and clay roads, where too often there is no clay to mix with the sand and thus solidify the road bed in dry season, as in certain districts of Shantung and Chihli, or no sand to mix with the clay to harden the road bed in wet weather, as is true in certain districts of Hunan, Hupeh and Szechuan. Sometimes in the latter contingency, where the clay is particularly sticky, there is gravel near enough at hand so that a coating can be put on the surface, as has been done immediately west of Siangtan, south of Changsha.

Every possible encouragement should be given to those who have studied highway engineering abroad and expect to spend the major portion of their lives in this type of work. Splendid progress has been made in north and central China during these past five years and great encouragement is now being given in most of the provinces of China to the extension of this system of highways. While in many instances, the militarists have been ruthless in destroying the roads for the time being, the more intelligent military leaders have greatly extended the mileage of highways, and most of them to-day are planning on bettering this system of transportation. There is no likelihood that the farmers will be able to plow up the motor roads of Shantung or Chihil as the natives near Shanghai once tore up the first railroad in China. The motor road has come to stay and will become increasingly popular. The highway engineer has a wonderful opportunity to display his ability as an invaluable cog in the economic machinery of the country.

Recent Advances in Design of High Voltage Switchgear

Being an Article in the Main Abstracted from a Paper Having the Same Title, Presented to Denki Gakkwai, Kyushu and Osaka Branches, June, 1926

By W. A. Coates, M.I.E.E., Fel. A.I.E.E., Manager for Japan, Metropolitan-Vickers Electrical Export Co., Ltd.

METALCLAD switchgear has had a firm footing with British engineers for so many years, that there is no occasion to explain the history of, or reason for, its development. The problem which faced Metropolitan-Vickers Co. when entering this field some years ago was peculiar, in that there are still many users (especially in the foreign field), who require cubicle type of equipment, either for extension of existing gear, or because of its lower first cost. The solution to this problem is indicated herein. The designs produced have now been in service for a matter of four years, and while embodying distinct improvements in design, enable marked economies in first cost to be effected in both metalclad and cubicle type switchgear fields.

Metalclad switchgear for mining purposes has been built at Metropolitan-Vickers Works in Manchester since 1908. Those familiar with this apparatus will note the exact similarity of principle indicated by Fig. 1, which shows a section through a modern unit, such as might be applied in any of the larger power systems of the Far East. The available range of sizes is wide, embodying circuit breakers from 75,000 k.v.a. to 1,500,000 k.v.a. breaking capacity.

Referring to the illustration, the duplicate sets of busbars, each in its own metal casing are located in the upper left-hand portion of the drawing. The individual bars are each connected to a contact socket, which is at the back of a deeply recessed insulator, the outer surfaces of which are covered by an extension of the busbar casing. Within the casing all conductors are insulated with Empire cloth or micarta of such thickness as to provide in itself adequate insulation for the working voltage. In addition, however, the interior of the casing is filled solid with compound, leaving only a sufficient air space (in a pocket provided for the purpose) to allow for expansion due to temperature changes.

Immediately beneath the busbar casings, is one which houses the current transformers. This also has a set of three contact sockets in recessed insulators, precisely as has each busbar unit. At the lower end of the current transformer casing, there is bolted on the cable-end box. The conductors within the transformer casing are insulated in the same manner as are the busbars, and the casing itself filled with compound.

The circuit breaker has plug contacts at the rear and is mounted upon wheels, which run on the upper surface of the side frames. These permit the circuit breaker to be drawn forward so that the contact plugs are clear of the busbar and instrument transformer contact sockets. In this position, grounded metal covers fall over the openings to the fixed socket insulators, so as to prevent risk of accident.

The potential transformer with the primary fuses and protective resistances are all immersed in the same oil tank, this tank being mounted on wheels, and making plug connection through recessed insulators in the cable dividing box. It is so arranged that the fuses can be lifted from outside the case, and until the potential transformer circuit has been broken in this way, the tank cannot be withdrawn from its contact sockets. The object of this feature in design is to enable the fuses to be replaced if necessary, without need for withdrawing the circuit breaker itself, as must be done with some older designs.

A novel feature is indicated at the side of the sectional drawing Fig. 1. The normal transformer casing is filled in solid with compound. It frequently happens, however, particularly in substation work, that the initial loading on a circuit is only a small fraction of the final full load current. To meet such cases, it has been the practice, either to use series transformers with series parallel connected windings or else to change the complete unit encasing the current transformers. The first of these arrangements is technically unsound, since the ratio error and voltampere capacity of the series transformer is different according to the connection used, while the second method is, of course, expensive. To meet the requirements of such installations the Metropolitan-Vickers Co. manufacture a modified form of current transformer chamber, which is filled with a semi-fluid insulating medium, such as resin oil or vaseline. This can be drained out and the complete side of the unit removed so as to expose the current transformers which are of the standard design used in cubicles also. This makes it an easy and inexpensive matter to change out current transformers as and when the load increases.

In all types of metalclad equipment the casings are filled with dielectric in the factory as far as possible. Where conductors pass out of a casing, the opening is made compound tight by a thick plate of micarta. Before filling the casings are heated and the contents dried out, so that there is no risk of trapping either air or moisture. The joints in the casing are felt or rope packed, and also sealed with Keen's cement, so that there is no possible chance of compound leaking under any conditions which may arise in service.

The compound used for filling varies according to the voltage on which the apparatus is used. Although the very hard compounds usually have the highest dielectric strength, they are also more liable to fine cracks if not cooled very slowly. The desirable mechanical characteristic

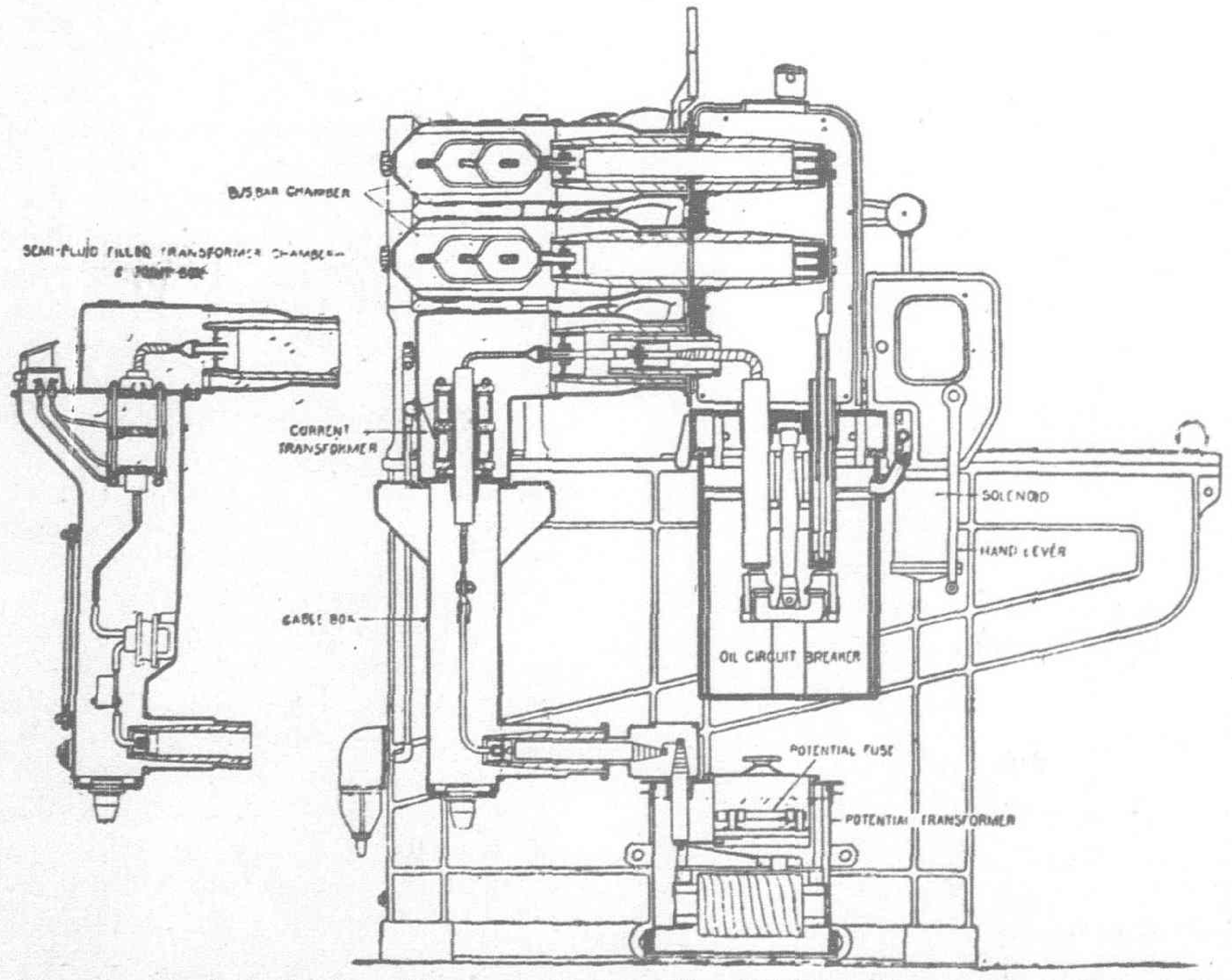
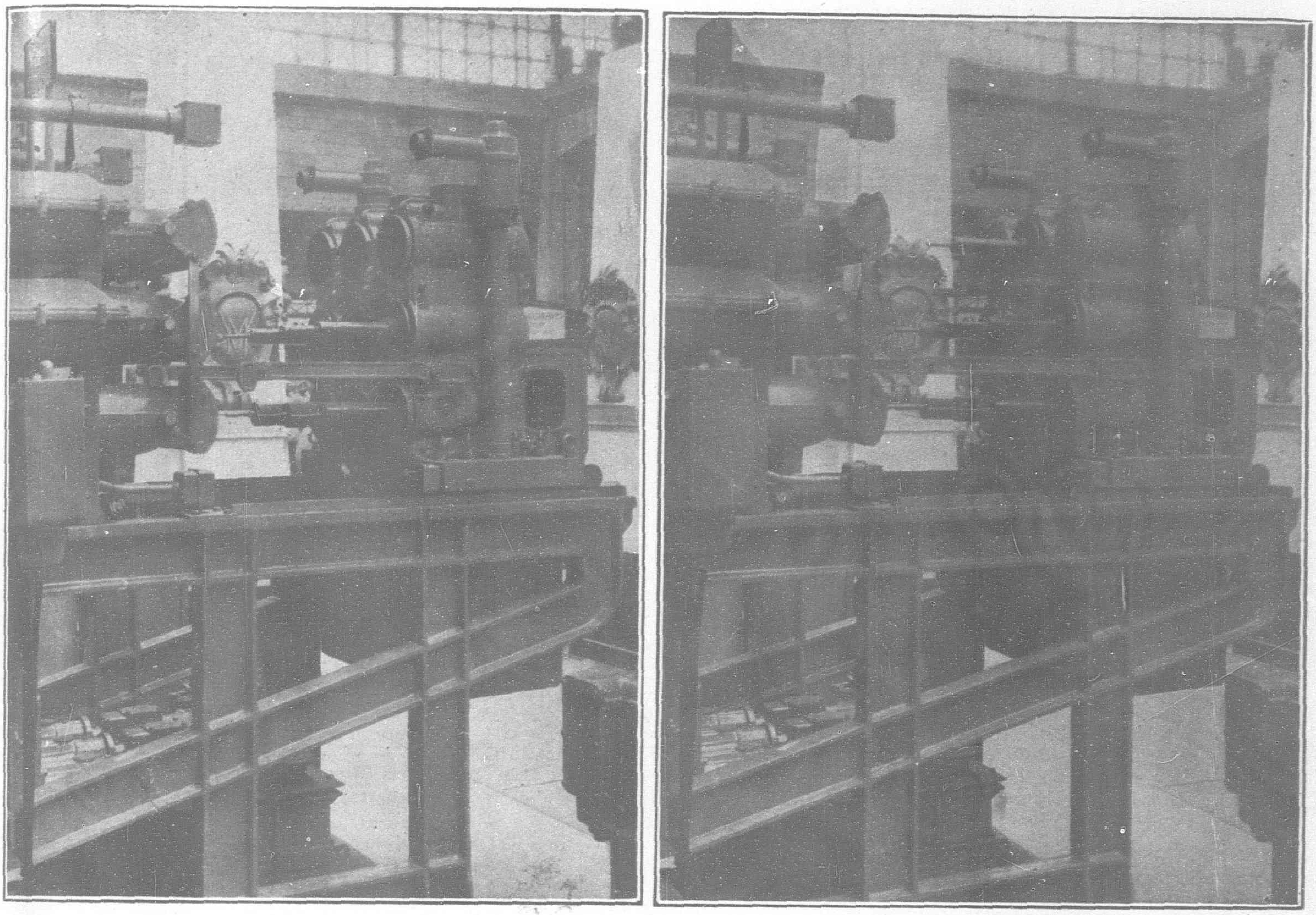


Fig. 1.—Typical Section Through Metropolitan-Vickers Metalclad Switch Unit



Plugs Properly Placed

Plugs Improperly Placed

Fig. 2.—Application of Interlocking Plate for Removable Plug Contacts on Metropolitan-Vickers Full Metalclad Switch Equipment

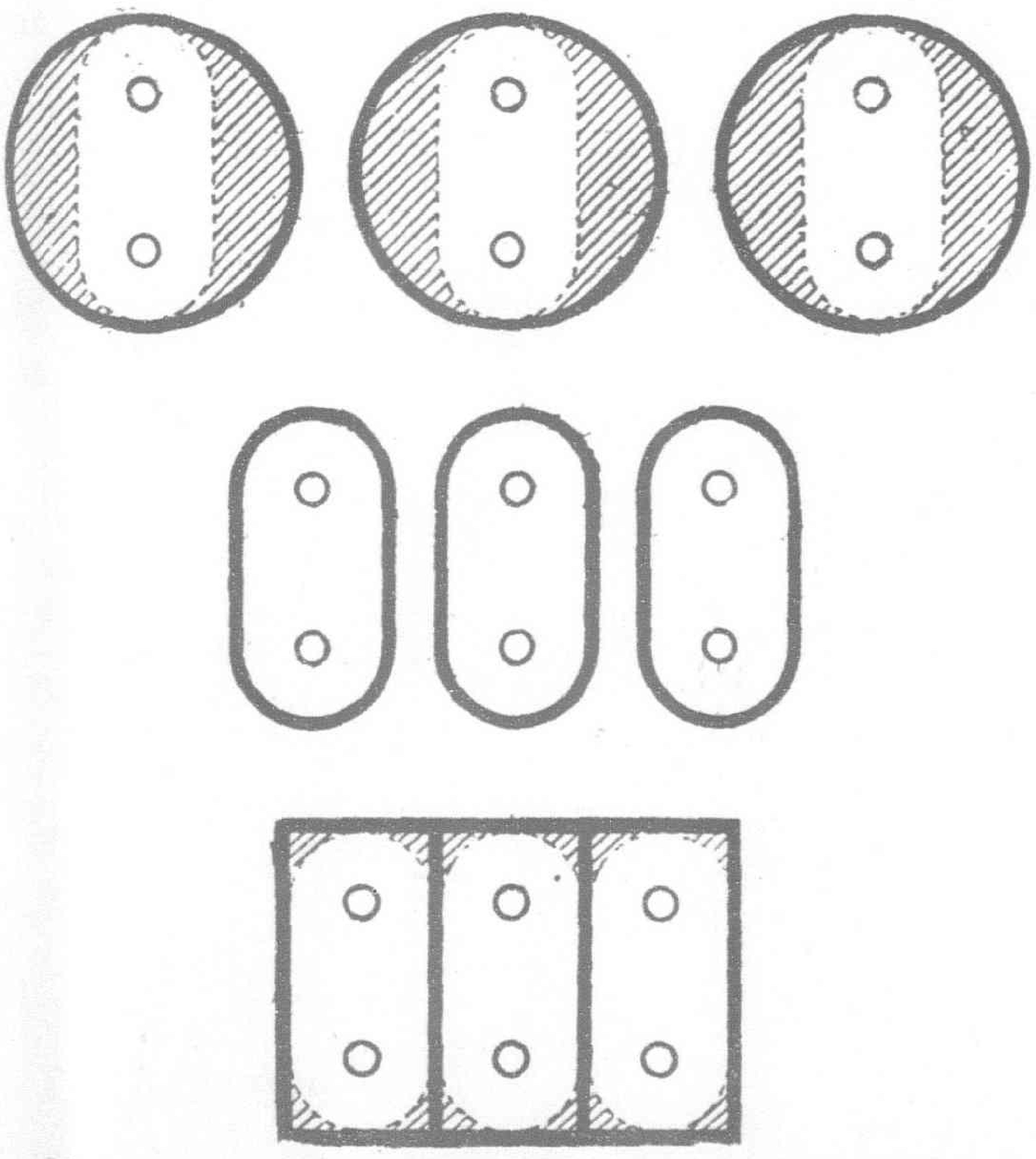


Fig. 3.—Comparison of Useful Space in Tanks of Various Shapes

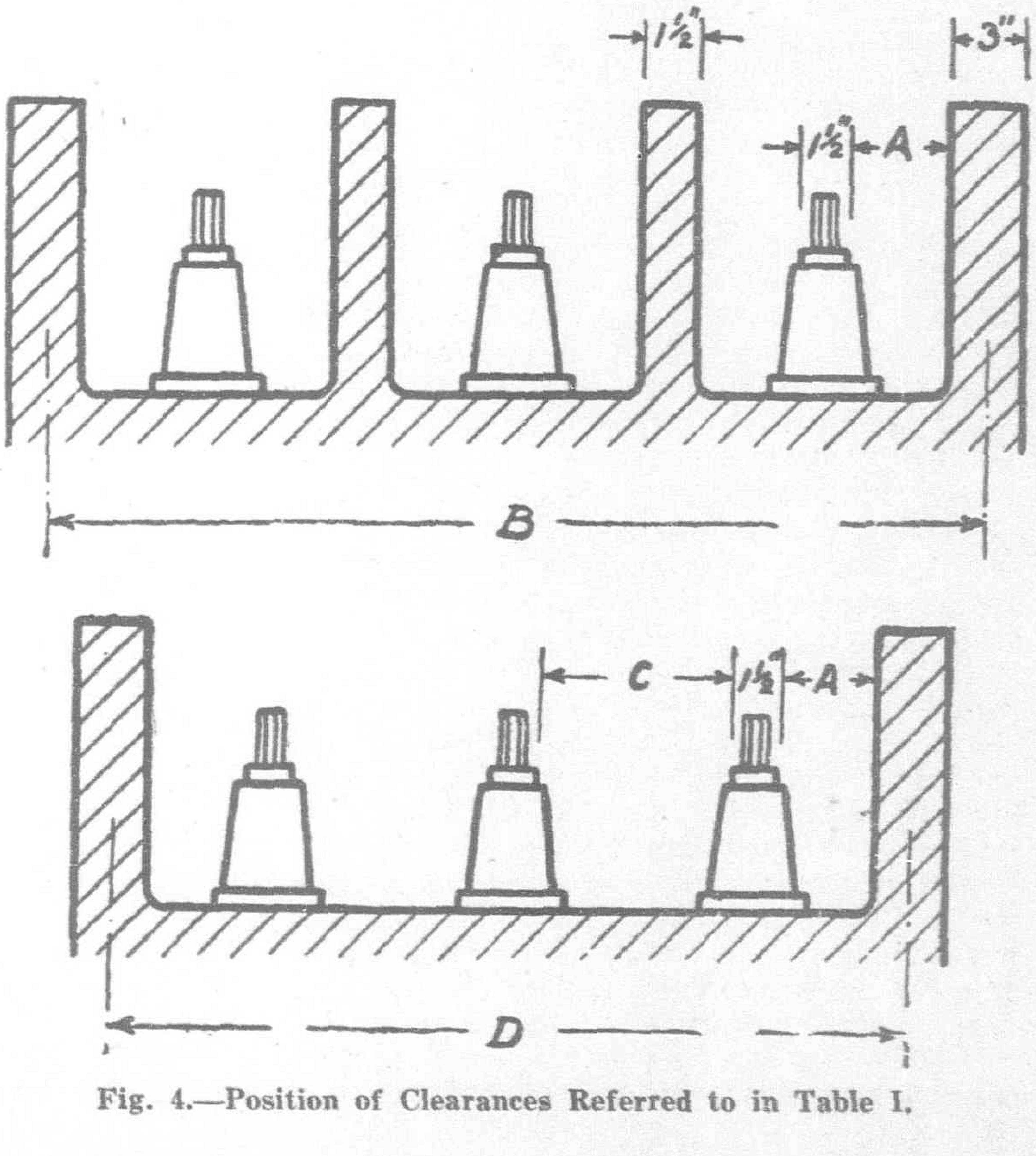


Fig. 4.—Position of Clearances Referred to in Table I.

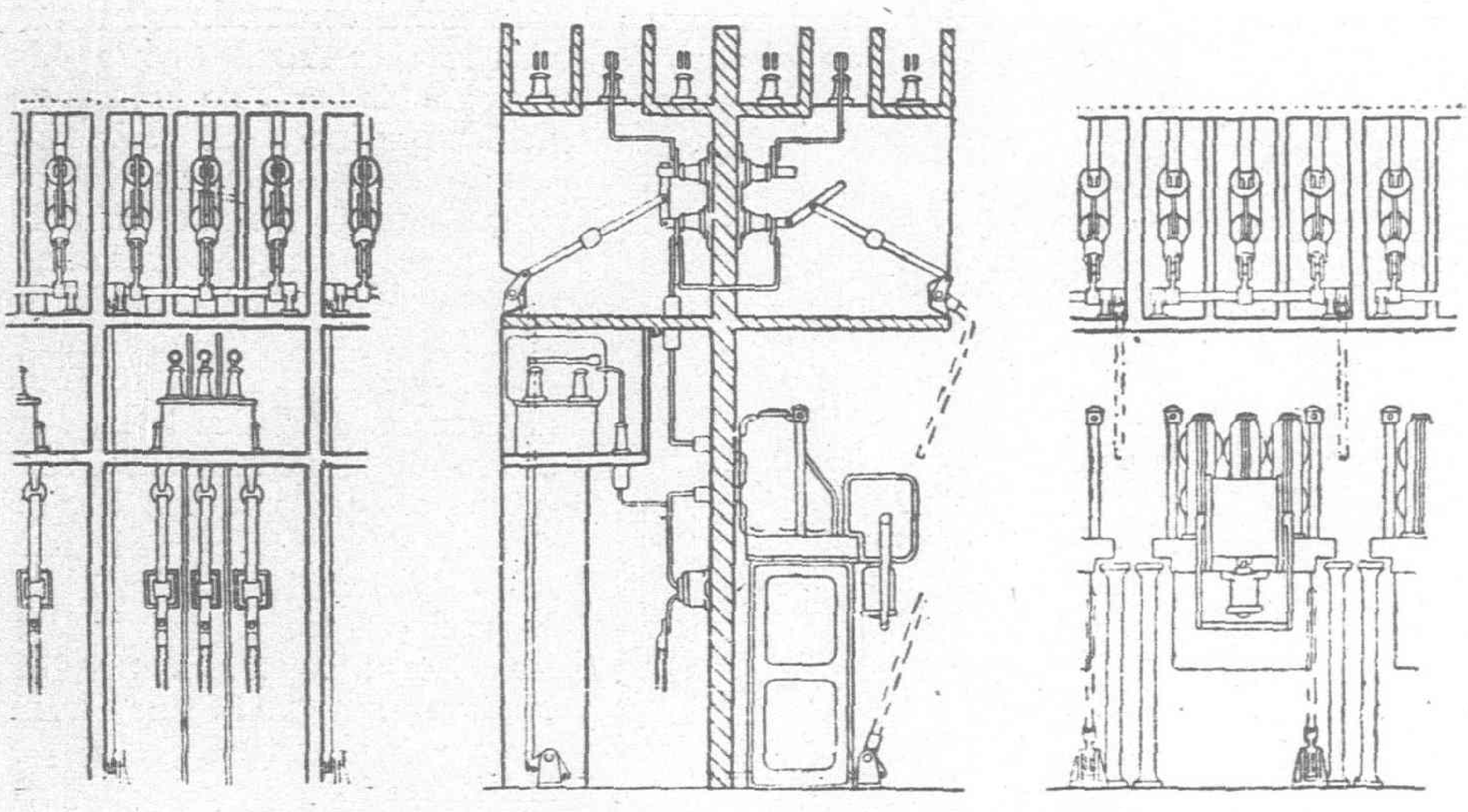


Fig. 5.—Typical Layout of Semi-Metalclad Equipment

is flexibility or toughness rather than hardness. It is usual to specify when purchasing this material that a slab of given thickness shall withstand a stated hammer blow without fracture. The pouring temperature is commonly between 250° F. to 280° F.

The range of operating temperature which is at all likely to be experienced in practice may be set at from freezing point to about 120° F. Over such a range the classes of compound used would increase in volume about 2½ per cent. It is well known that all compounds "flow," even at temperatures far below their melting point, so that it is only necessary to provide in each casing sufficient air space in a top pocket out of the way of conductors, to prevent any stresses in the casing metal due to expansion of compound.

Those portions which cannot be filled in the factory: *i.e.*, the short lengths coupling busbar sections and the cable end box are so designed as to have large filling openings readily accessible. Experience has proved that the users themselves can readily complete erection without any risk of trouble subsequently occurring.

The use of conductors buried in compound introduces unusual features, but these are not so serious as they appear to be at first sight. The fact that the conductors are at very close centers naturally means that under short circuit conditions the mutual repulsion between them reaches a very high value, but the presence of the compound acts as a shock absorber, and in point of fact it has been found impossible to burst a compound filled busbar unit or move the conductors even when subjecting it to the highest current values which could possibly be experienced in practice.

The second point which is liable to cause apprehension is that of heating, since there is no chance of using air as a cooling medium between individual conductors. Here again research has shown that the casings as a whole have very high thermal capacity, and the big area on the outside of the casing does good service in radiating heat generated. In practice, these equipments, which are designed to comply with the British Engineering Standards maximum temperature rise of 30° C. above surrounding air, are worked on a current density ranging from 1,000 amperes per sq. in. with a normal current of 1,000 amperes down to 350 amperes per sq. in. with a normal current of 3,000 amperes. The corresponding figures for open busbars would be approximately 1,150 amperes per sq. in. and 850 amperes per sq. in. The difference is, therefore, much less than would be expected at first glance.

Reverting to the horizontal draw-out equipment it will be seen that where duplicate busbars are used, the usual method of transfer from one busbar to the other consists in first opening the circuit breaker and then withdrawing it so that the top set of plugs can move from the upper to the lower position or *vice versa* to enable them to make contact with the desired set of busbars. A simple interlocking device shown in Fig. 2 can be arranged to prevent the switch being pushed home unless all plugs are in one position or the other: *i.e.*, it is not possible to make connection with the main busbar on two phases and with the auxiliary busbar on the third phase.

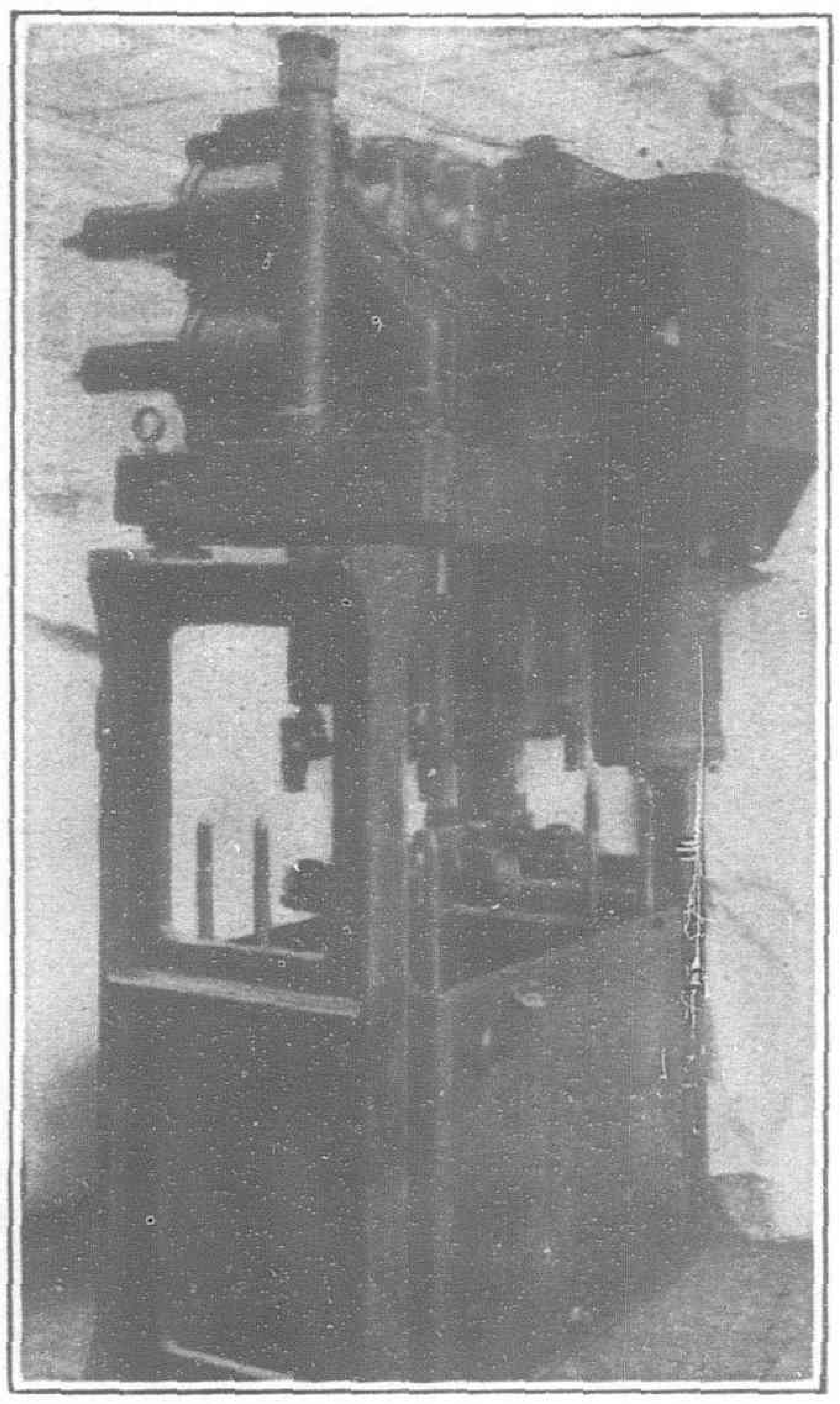


Fig. 6.—Metropolitan-Vickers Type "K-3" Semi-Metalclad Circuit Breaker

At first glance this movable plug arrangement will strike an operator as very objectionable, although in point of fact in the majority of plants it is not at all common for it to be necessary to transfer circuits on load from one busbar to the other. The duplicate busbar is most frequently used either for testing out a machine or cable after repair, for use during extensions, for periodical cleaning, or for use in the emergency of failure of the main busbar insulation. With metalclad gear it may fairly be claimed that the last two functions are entirely unnecessary, while the first two only occur very rarely and there should not be any very serious objection to killing a circuit for the two or three minutes necessary for change over in these cases.

In those rare cases where change over without interruption is essential, a solution is offered by a design of the regular horizontal plugging type which incorporates above the circuit breaker an oil immersed transfer switch which can be operated from outside either by mechanical or electrical means. With this arrangement, it is, of course, necessary to have a bus coupling oil switch and to provide means of interlocking between this switch and all the transfer switches on the individual circuits.

Metalclad equipments are inherently more compact than are equipments constructed in conventional cubicle work, since the latter rely largely on air as an insulator through which greater distances must be allowed for a given break down value. It is typical of metalclad switchgear that the circuit breakers are constructed with all three phases contained within a single main tank

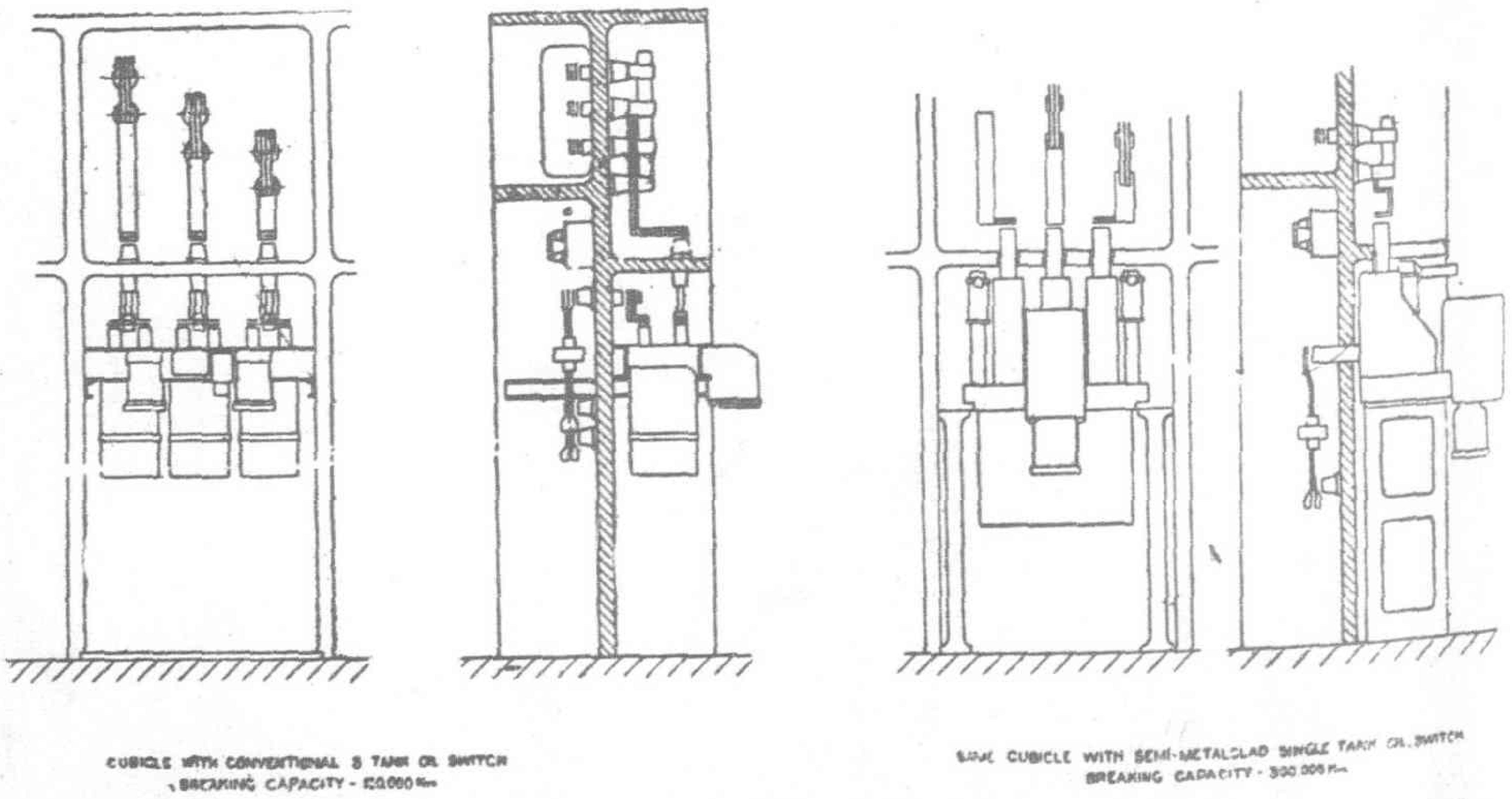

CUBICLE WITH CONVENTIONAL 3 TANK OIL SWITCH
BREAKING CAPACITY - 150,000 Kva
SAME CUBICLE WITH SEMI-METALCLAD SINGLE TANK OIL SWITCH
BREAKING CAPACITY - 300,000 Kva

Fig. 11.—Typical Cubicle Showing Comparison of Maximum Sizes of Ordinary and Semi-Metalclad Circuit Breakers which can be Fitted

which, however, has steel phase barriers welded inside so that the phases are separated as efficiently as though separate oil tanks were used. The construction is in fact just as though three single phase tanks had been welded side to side. Reference to Fig. 3 will make it immediately apparent that in the separate tank design there is necessary a considerable amount of space only occupied by tank supports, or by the tank lifter when in use. In any design of circuit breaker with a double break in the same tank, the arcs are mutually repelled outwards, in the same plane as the terminal studs. The important dimension is that between arcing contact and tank in this plane. The sides of the tank need not be at a greater distance from the live metal, than this arc-to-tank dimension.

From this merges the fact that a flat sided, round end tank, holds the minimum quantity of oil for a given breaking capacity. The circular tank design is often used merely because for a given thickness of metal, this shape gives the strongest tank. From a space standpoint, the circular design is the worst of any, since the shaded portion plays no part whatever in the operation of the circuit breaker. There is, of course, no technical reason why tanks should not be built equally strong using flat plates of increased thickness, and this is actually what is done with the metalclad design developed in England.

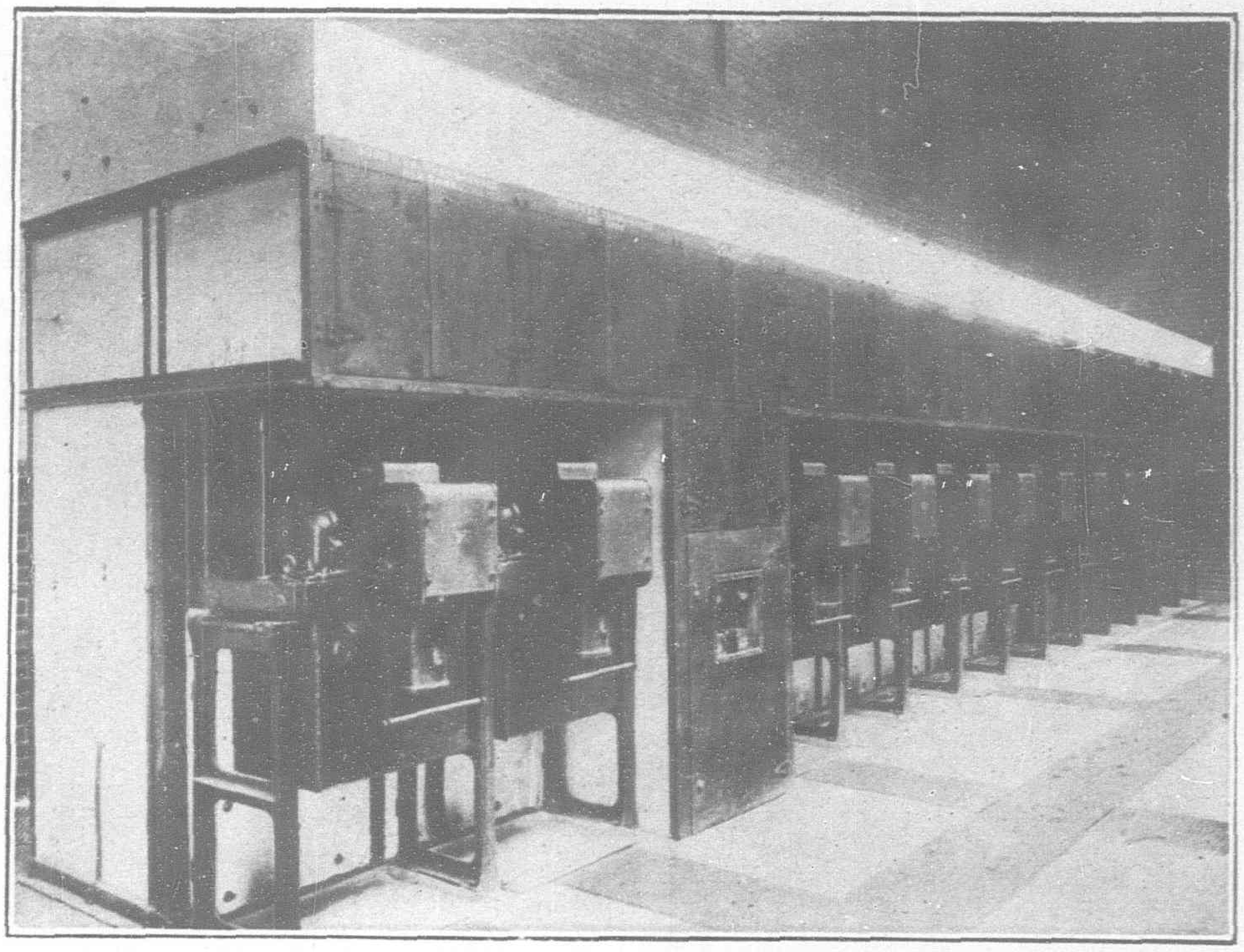


Fig. 7.—Installation of Type "K-3" Semi-Metalclad Apparatus. Stretford Corporation, England

The statement that space is wasted unnecessarily with separate tank circuit breakers is entirely true, excepting only with those circuit breakers of such small capacity that the overall dimensions of the cubicle are controlled, not by the circuit breaker size, but by the necessary clearance from disconnecting switches and other bare conductors to the concrete work.

TABLE I.

System Voltage	With phase barriers: Clearance to Ground A	With phase barriers: Circuit centers B	Without phase barriers: Clearance Phase-to-Phase C	Without phase barriers: Circuit centers D
6,600	2½-in.	25½-in.	3½-in.	19½-in.
11,000	3-in.	28½-in.	5-in.	23½-in.
22,000	5½-in.	43½-in.	9½-in.	37½-in.

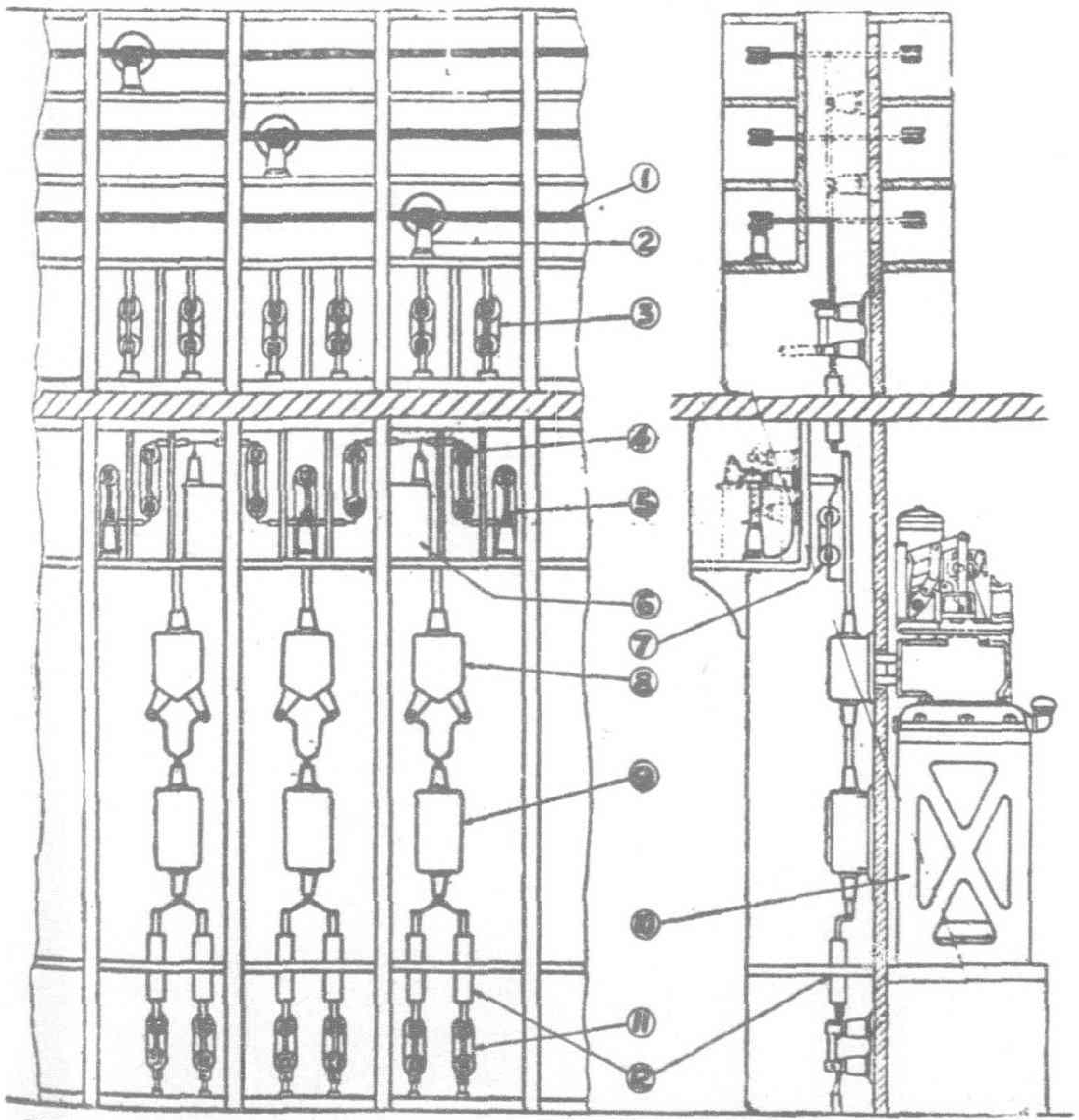


Fig. 8.—Section Through One-half of Semi-Metalclad Equipment Supplied to Salford Corporation, England

The Table I shows what the circuit centers would be if the dimension were determined solely by disconnecting switches. It has been assumed that the width of live metal on each switch is 1½-in., and that the cubicle wall between circuits is of concrete 3-in. thick, Refer to Fig. 4. Where phase barriers are assumed, concrete 1½-in. thick has been allowed for. The clearances A and C are the minimum fixed by British Engineering Standards specification 116-1923.

TABLE II.

Breaking capacity of Circuit Breaker k.v.a.	Circuit centers Full Metalclad	Circuit centers Semi Metalclad	Cubicle
40,000	—	—	28-in.
95,000	—	—	42-in.
150,000	28-in.	27-in.	—
210,000	—	—	48-in.
250,000	33-in.	31-in.	—
350,000	40-in.	39-in.	48-in.
420,000	—	—	58-in.
470,000	—	—	67½-in.
500,000	54-in.	48-in.	—
650,000	—	—	74-in.
750,000	63-in.	51¾-in.	—

Table II shows dimensions for the circuit centers as determined solely by the oil circuit breaker size. In the case of cubicle equipment, Westinghouse apparatus has been selected, as representative of first-class practice in the field of regular cubicle construction.

Comparison of Table I and II will show at a glance how the width of the circuit breaker itself determines the overall dimension of the cubicle in the majority of cases. The conventional cubicle arrangement will nearly always occupy a greater overall length than either the metalclad or the semi-metalclad designs (The latter is dealt with in some detail later in this paper).

Cubicle work can only be constructed against a wall when the circuit breakers are very small, about 100,000 k.v.a. being the limit for this arrangement. In all other cases a gangway is necessary both in front and behind the cubicle. This double gangway offsets the wider passage needed in front of metalclad gear, so that as a rule the width necessary between walls is about the same for either construction.

The consideration just referred to coupled with those referred to at the outset has led to the development of the semi-metalclad design now advocated by the Metropolitan-Vickers Co. Fig. 5 will give a very clear idea of the manner in which this construction is carried out. It will be seen that the circuit breaker element is substantially the same as that employed in the full metalclad scheme, the only difference being that the circuit breaker is rigidly supported on fixed side frames and that the terminals which project from the back of the circuit breaker are permanently bolted on to connection straps which thereafter run to equipment of the conventional cubicle mounted type. A typical circuit breaker used in this construction is shown in Fig. 6 and a complete equipment in Fig. 7.

Such equipments when embodying circuit breakers of 250,000 k.v.a. or more, and used on 11,000 v. system, actually occupy less overall lengths than do full metalclad equipments as is shown in Table II. The slight decrease is due to the omission of interlocking gear and of the compound filled busbar coupling pieces. The circuit centers are greatly less than those obtainable when using the original type of circuit breaker which has separate oil tanks and exposed terminals above switch top.

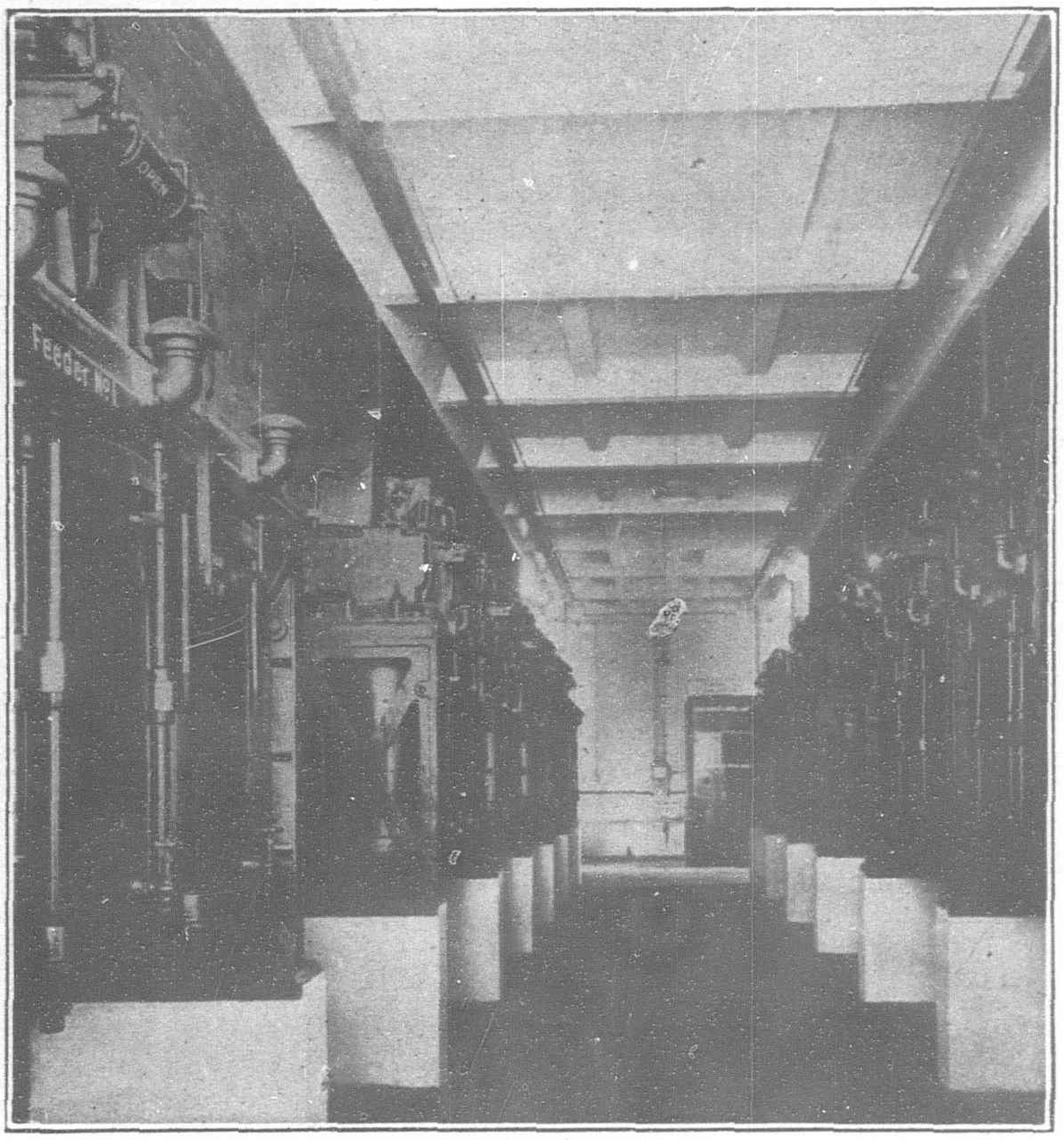


Fig. 9.—View of Circuit Breaker Room: Salford Corp.

Equipments of this type represent about the most economical at present available, since the cubicle work is so greatly reduced below that required for other types. The difference in cubicle cost is frequently of the order of 40 per cent. to 50 per cent. (See Appendix). No cubicle work whatever is necessary around the circuit breaker itself, since there is no live metal exposed.

For equipments requiring circuit breakers of very large rupturing capacity, which would consequently be too high to be built in a single floor structure, the customary arrangement is that typified by the equipment installed by the Salford Corporation in England and illustrated in the sectional drawing, Fig. 8. In this case, two rows of circuit breakers are accommodated on opposite sides of a room devoted to circuit breakers only, and in which no cell work is employed. A view of this room is given in Fig. 9. This fact of total enclosure makes it possible to carry out a very great deal of the ordinary maintenance work without interfering with the operation of circuits, since all mechanism can be cleaned and lubricated in perfect safety. It is, of course, still necessary to clean periodically the exposed insulators and apparatus in the cubicles, but in most cities such cleaning is not required very frequently. Because of their peculiar structure, the circuit breakers for semi-metalclad equipments are shipped from the factory completely assembled, thus reducing the cost of erection as compared with the more bulky separate tank circuit breakers, which in most cases must be shipped in three or more parts.

It occasionally happens that the number of instrument transformers required for a particular circuit is so great that these alone cause an increase in the size of the cubicle. Such cases have been very neatly dealt with by adapting to cubicle construction the plugged potential transformer ordinarily designed for use with metalclad equipments. The manner of this adaptation is shown in the drawing Fig. 10. Probably the most common case in point is that of a generator circuit on which it is necessary to have a potential transformer for operating wattmeters, synchronising equipment, etc. and also a separate potential transformer for the automatic voltage regulator. The drawing shows how these two transformers can be fitted without causing any increase in the cubicle height.

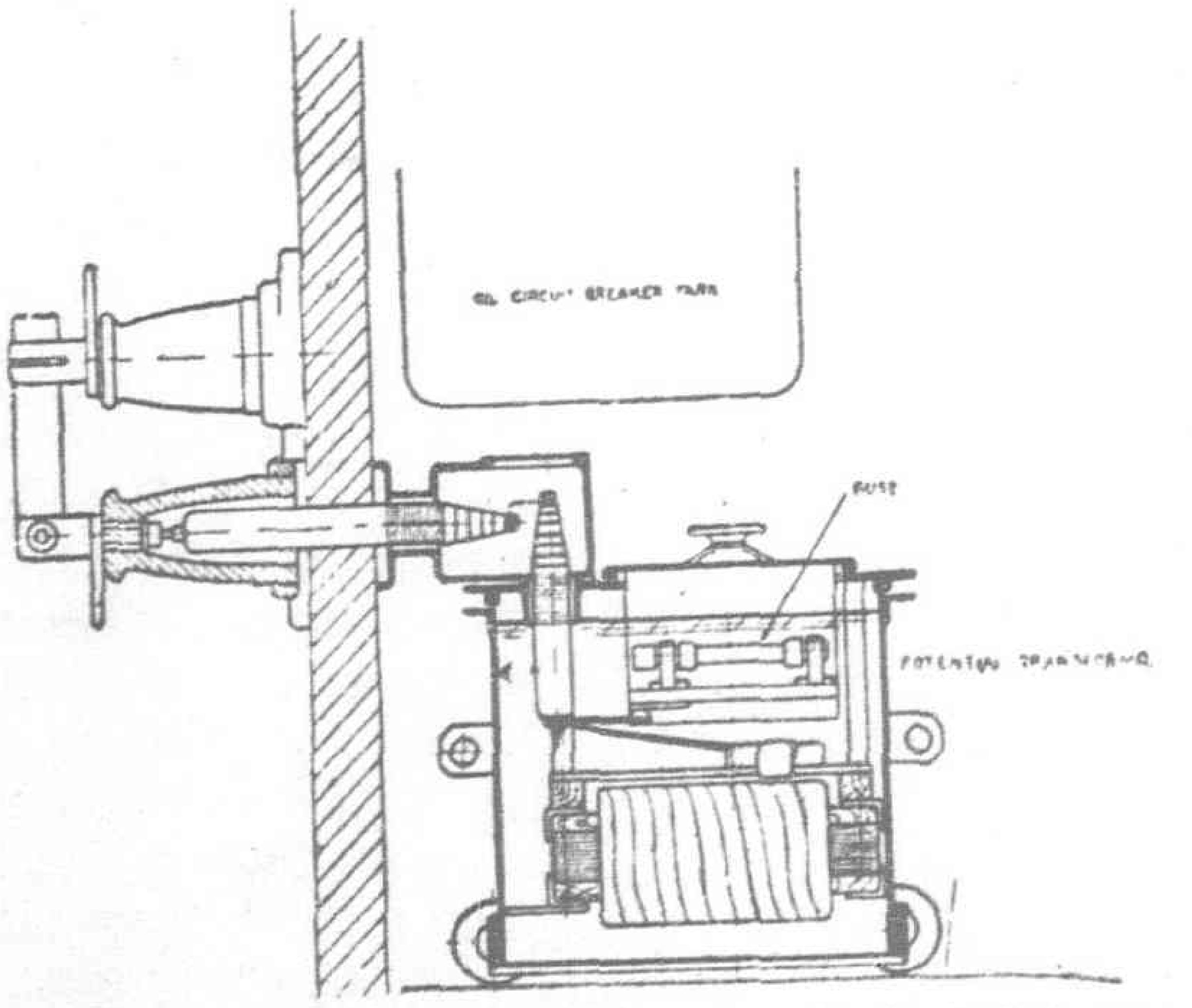


Fig. 10.—Application of Plugging Type Potential Transformer to Cubicle Work

Although the semi-metalclad breaker was designed with the idea that it would be applied in conjunction with concrete cubicles to house the rest of the apparatus, such cubicle work is not essential. In those stations where open construction is considered suitable, it will be found that semi-metalclad circuit breakers still offer the advantage of considerable space reduction.

The factor of space economy also makes this type of circuit breaker of great value in modifying those switching equipments which have been outgrown by the plant serving them. In Fig. 11 is illustrated an outfit only recently ordered by the Kyushu Denki Kido. The cubicles were designed originally to take an ordinary three-tank type of circuit breaker, having a rated breaking capacity of 150,000 k.v.a. On the same drawing is shown how this cubicle unchanged will accommodate a semi-metalclad circuit breaker which is rated at 300,000 k.v.a. The need for such changes occurs very frequently in systems which are growing rapidly, or on which the possible short circuit current has been increased by reason of interconnection with other power systems. The semi-metal circuit breaker provides means for properly safeguarding the enlarged system at minimum cost for alterations.

As previously stated this semi-metalclad design has only been available for about four years, but during that time it has obtained such an extraordinary vogue that it bids fair to replace entirely the older designs of cubicle work. The first installation of this type in Japan is on the system of the Kobe Municipality, who have now ordered some 36 circuits to be equipped in this manner. An installation of this type can be seen also in the Toho Denryoku K.K. Maeda plant at Shimonoseki. A typical full metalclad installation is shown in Fig. 12.

In the author's opinion, full metalclad switchgear has its true application,

(*a*) in unattended substations.
(*b*) in places usually subject to salt sea fogs, high humidity, or dirt and dust laden atmosphere.
(*c*) in places in the charge of semi-skilled operators, where the mistake-proof interlocks are a great advantage.
(*d*) where space considerations alone make it essential.

In all of these the increase in the capital cost is justified by the advantages gained. In the case of (*c*) it is sometimes possible to secure a sufficient degree of operating safety, at a lower cost, by using truck type of sheet steel cubicles.

Admitted that even the most highly skilled operators sometimes make mistakes, especially when emergencies arise. The frequency of these errors is so small, however, that it appears better to save on the capital cost by using semi-metalclad equipments where good operators are available. Most of the operating mistakes which have occurred could have been avoided by taking a few rather elementary precautions, e.g., by using triple pole rather than single pole disconnecting switches, these being operated preferably from beside the associated oil circuit breaker, as was shown in Fig. 5.

The old-fashioned cubicle, with separate tank circuit breakers can show positively no advantage over the semi-metalclad arrangement, which gives minimum capital cost installed, less and safer maintenance, and (on account of the design of the circuit breaker itself) a greater factor of safety in breaking circuit.

APPENDIX

Dimensional Comparison of Various Constructions

Table III.

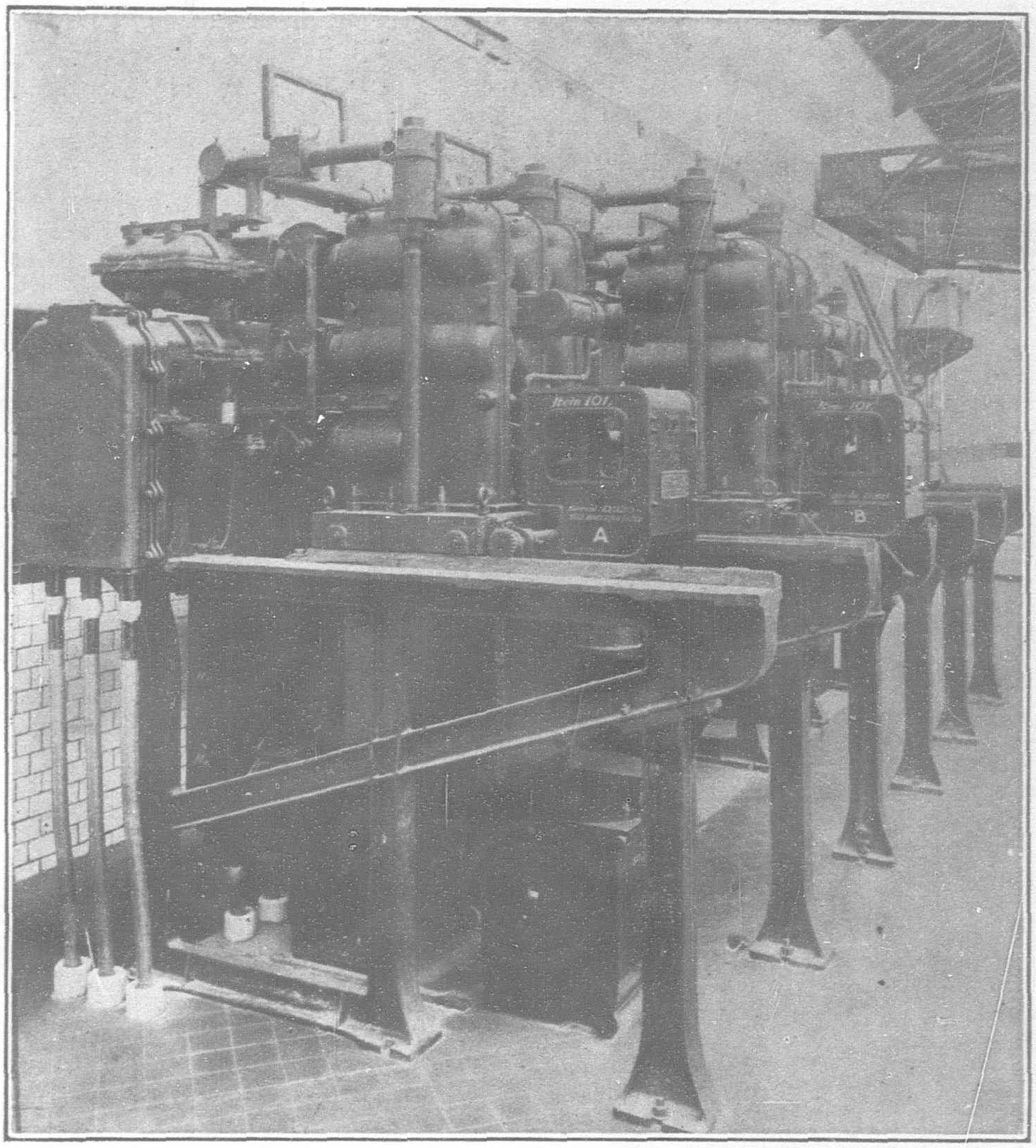
Breaking Capacity of Circuit Breaker K.V.A.	Minimum Floor Space: sq. ft. Including Gangway		
	Full Metalclad	Semi-Metalclad	Conventional Cubicle
150,000 ..	27.2	28.5	44
250,000 ..	27.5	33	51
350,000 ..	41	42.5	53
500,000 ..	72	61	86
750,000 ..	94	70	98

Table IV.

Breaking Capacity of Circuit Breaker K.V.A.	Minimum Room Capacity: cu. ft. Including Gangway		
	Full Mtealclad	Semi-Metalclad	Conventional Cubicle
150,000 ..	190	310	470
250,000 ..	200	360	560
350,000 ..	340	490	600
500,000 ..	720	800	1,100
750,000 ..	1,040	1,000	1,430

Table V.

Breaking Capacity of Circuit Breaker K.V.A.	Cubic Contents of Concrete Work: cu. ft.	
	Semi-Metalclad	Conventional Cubicle
150,000 ..	115	245
250,000 ..	135	285
350,000 ..	175	300
500,000 ..	240	530
750,000 ..	290	650



Type K 3 Switchboard at Fulham Borough Council

The above tables of approximate comparisons are all based on an average sized feeder circuit on 11,000 volts. It must be borne in mind that floor space occupied (Table III) is usually of greater importance than the cubic space occupied (Table IV), since in most cases the height of room is fixed by some apparatus other than the switchgear.

In regard to Table V, the cost of concrete cubicles, moulded in situ, generally varies directly with the overall dimensions of the structure. The actual cost varies considerably according to the method of construction, and the district in which the work is done. It is usually of the order of Y. 1.00 to Y.1.50 per cub. foot.

Chapei Electricity and Waterworks Co., Ltd.

Work has been started on the new plant of the Chapei Electricity and Waterworks Co., Ltd., at Dike Road, Military Road, Chapei, Shanghai. The new plant is being built on an area of 150 *mow*, and it is expected to be ready for operation by June, 1927. Its daily capacity in the beginning will be 10 million gallons and may be increased to 40 million gallons. Water will be drawn from the Whangpoo River instead of the Soochow Creek which is the present source of supply. The new plant will have (1) two coagulation basins, 12 rapid sand filters, and two chlorinators all of which will have the combined capacity of 10 million gallons, (2) one pump house to be equipped with a centrifugal pump driven by a motor with 1,000 kilowatt power and with a water pressure equivalent to 100 lbs. to the square inch at the works and 40 lbs. per square inch for hydrants, (3) five purified water reservoirs with a capacity of 957,000 gallons, (4) a water tower 95.5 feet high with a capacity of 170,000 gallons, and (5) water mains consisting of C. I. pipes, 36 inches in diameter, which will aggregate a total length of 7.5 miles and which will be connected with the existing distribution system. The cost of the new plant is estimated at $2,000,000. The company will contract for light and power from the Electricity Department of the Shanghai Municipal Council although plans are being made to build a power plant of its own in due time. When the new plant begins operation, the present works at 189 Heng Feng Road, Chapei, will be remodelled into a reservoir station. The company is capitalized at $4,000,000, and its general office is located at 441 Tatung Road.

The Chinese Owned Railroads of Manchuria

(Continued from page 515).

they may wish to try the experiment with respect to other foreign interests in other railway lines in China.

"We will get all we can," was Governor Mo's terse reply to the direct question as to whether China would seek complete control of the C.E.R. "On the other hand," he added, "we regard it as extremely important that the traffic of the road be in no way interfered with."

The building of good cart roads appears to be a favorite plan of Governor Mo. He pointed out that the development of Manchuria was being held back because inadequate roads prevented transportation, and that the construction of railway lines did not afford a completely effective solution of the problem. He hopes to bring about the construction of a number of roads, some of them leading to the railways, though not paralleling them, and some connecting important towns without any special relation to the railways. In the construction of such roads, he says, it is necessary to plow up the soil and then tamp it down, an effective process though it involves constant attention for several years. It is not practicable, for economic reason, to employ stone in such construction, but the new roads will nevertheless be a vast improvement over those which now exist.

Poles Pulled by New Method

Simplex Jack Effects Striking Economies

AN interesting application of modern equipment and methods to an age-old task is the use of "Simplex" Pole Pulling Jacks by the Shanghai Municipal Electricity Department to raise or to remove poles used in their distribution system.

Poles are removed because of decay, or to be replaced by a larger pole or owing to change in right-of-way, consequent to widening and straightening of roads. In some parts of the settlement the street level has been raised since the Electricity Department placed its poles and ran its distribution circuits.

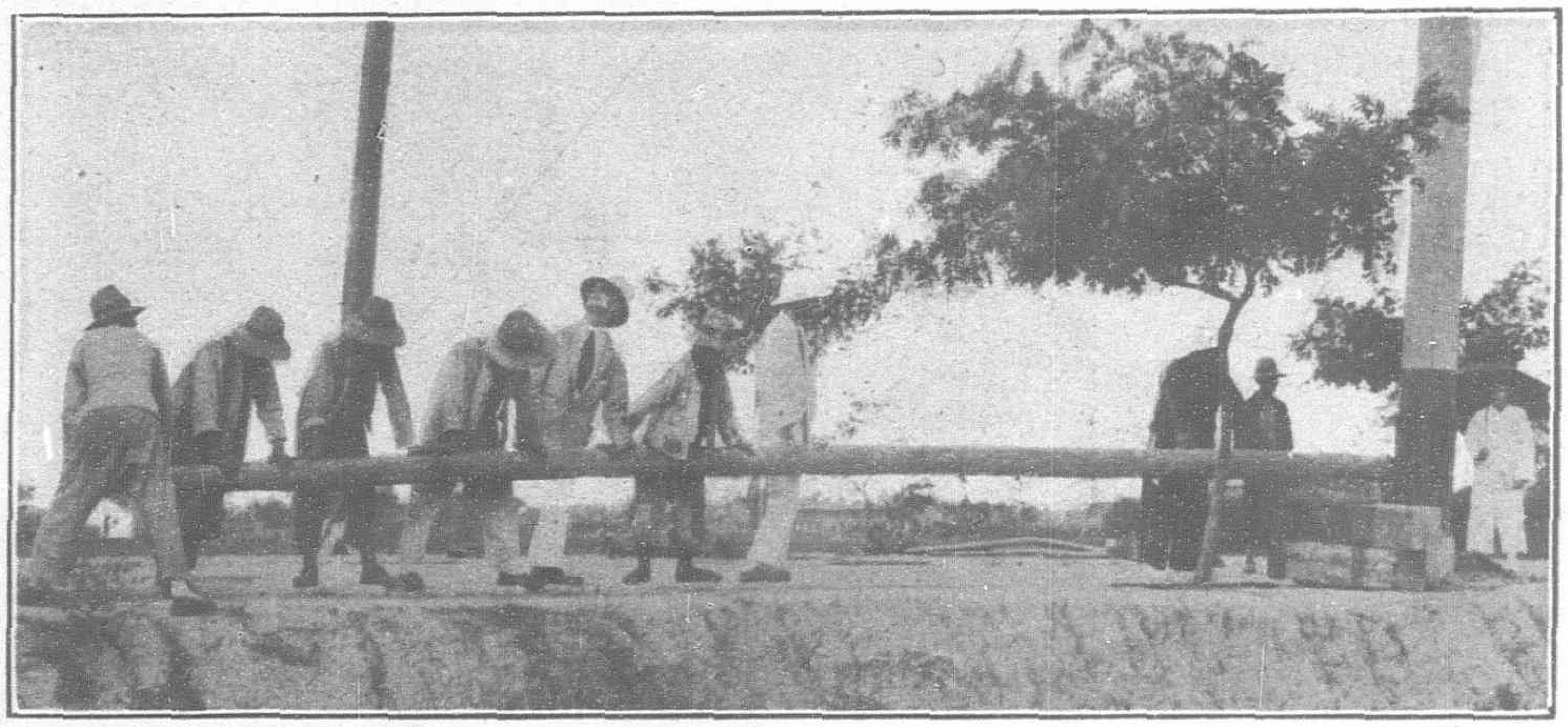
Lay Road is a case of this sort, the road level being raised 18 inches, making the road level about level with the top of the cement pole footing. Obviously the whole lot of poles, with their foundations, would have to be raised 18 inches to give proper drainage to pole bases, and prevent early decay.

The ancient and traditional method of raising the poles consists of using a "Foochow" pole as a lever, fourteen men as the Power, and by the use of considerable effort, much sing-song and so much jerking and vibration that the wires on poles are sometimes jarred together, causing short circuits with consequent circuit interruptions, the poles are slowly raised to their new level.

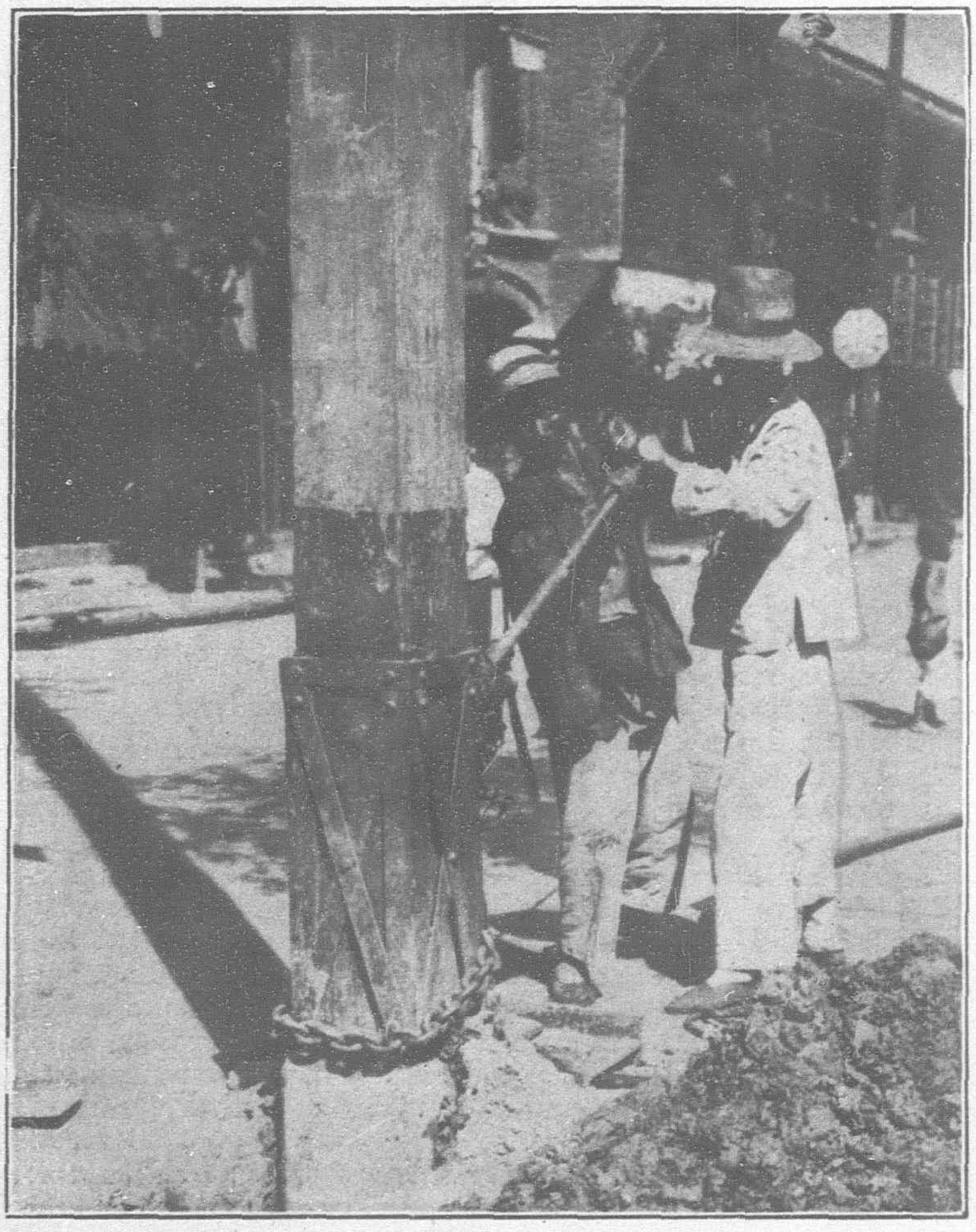
By this old method, fourteen men can raise five poles per day. On the Lay Road job, illustrated here, three men raised ten poles per day. The big Simplex Jack raised the poles without vibration or jar, and the wires were never in danger of contact.

An analysis of these figures shows that striking economies are effected by this new tool. By the old method, raising a pole represents 14/5 or 2-$\frac{4}{5}$ man-days labor. By the new method it represents $\frac{3}{10}$ man-days labor and increase in speed of operation of 933-$\frac{1}{3}$ percent. The saving in labor charges in a few days use pays for the jack, even if the other and more important considerations of safer and quicker work are ignored.

The Jack is conservatively rated at 15 tons. It is supplied complete with chain and hook, pinch-bar lever, and "H" beam foot plate, and is built without a screw. It is built by Templeton, Kenly and Co., Ltd., of Chicago, who manufacture high grade jacks for all purposes, from $\frac{3}{4}$ ton to 35 tons, is fully guaranteed and is distributed in China by the China Electric Co., Ltd., Shanghai.

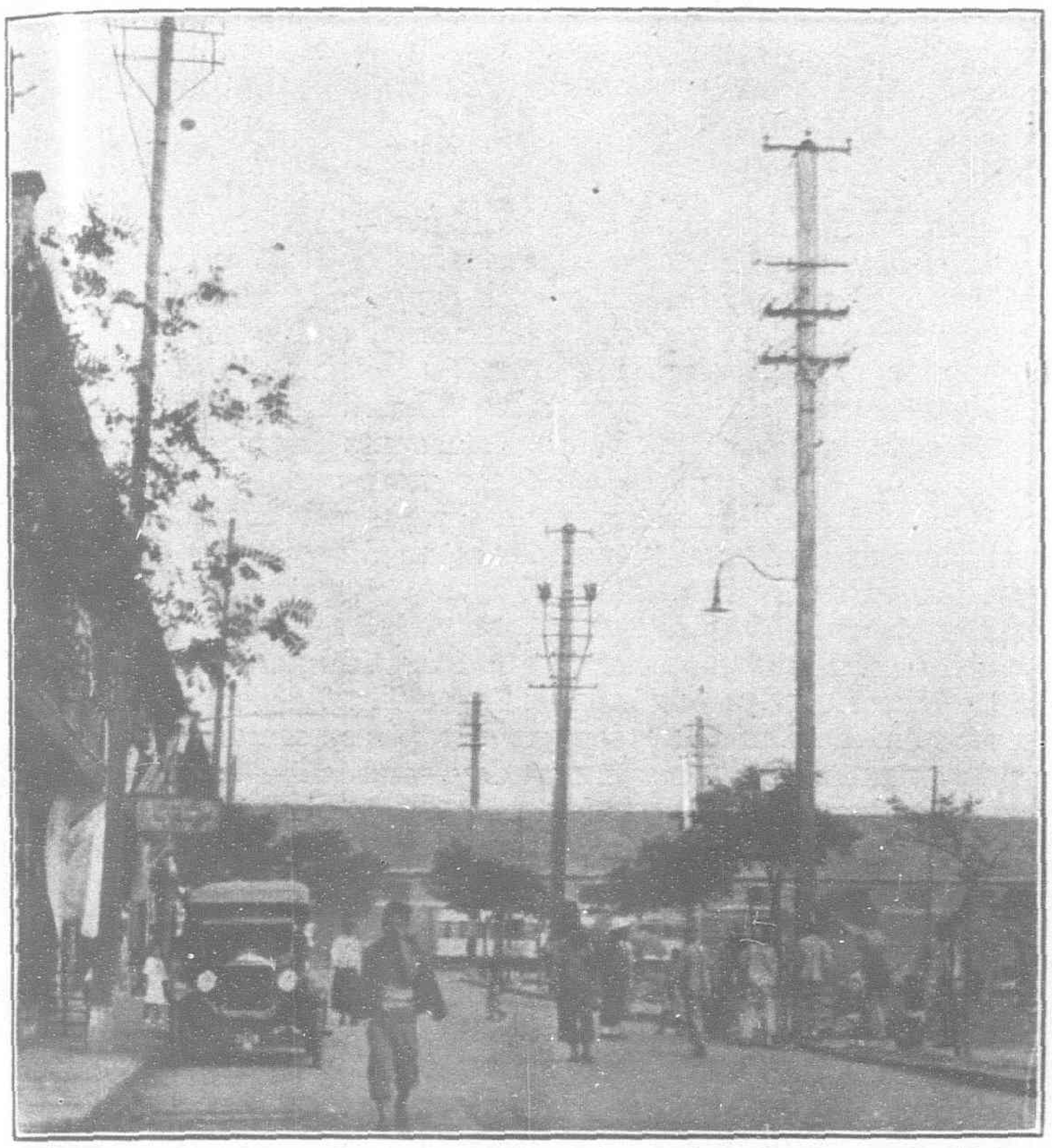


The Old Method of Raising Poles. The Crew of 14 Men is 6 Short, the Picture being Posed to Show the Method only. Lay Road

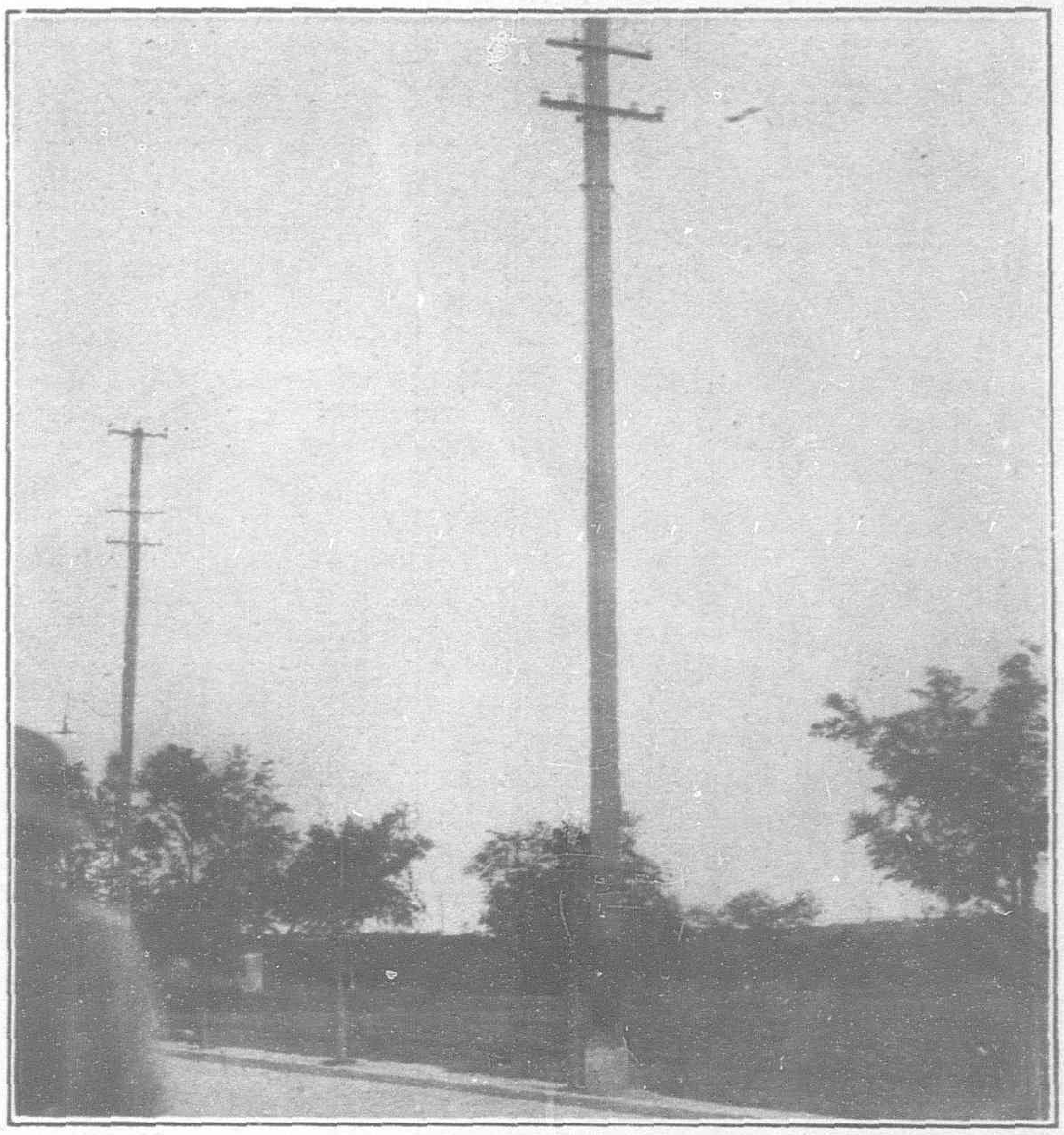


Pole being Raised on Lay Road, Two Men Raise the Pole, the Third Man of the Crew being the Foreman

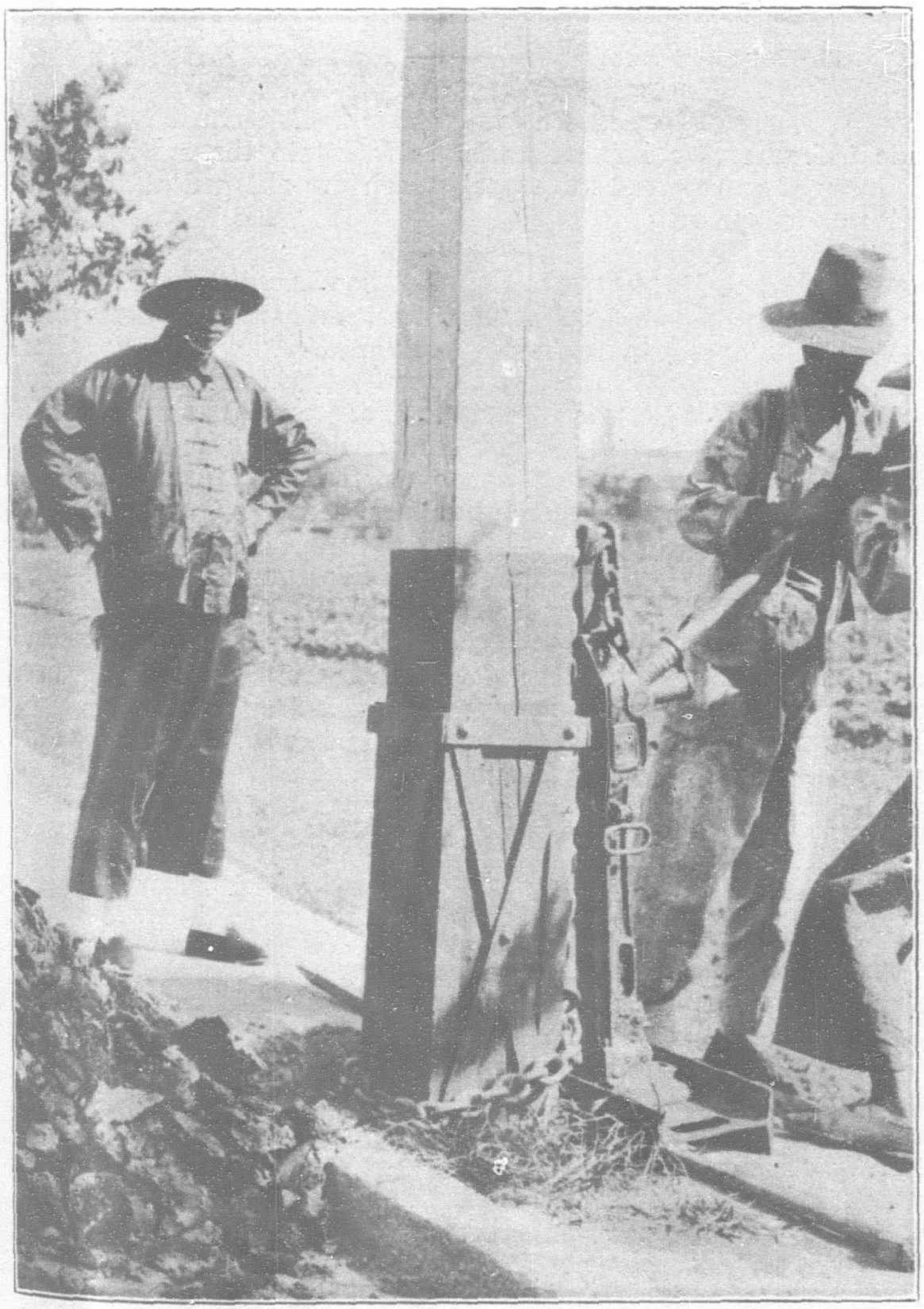
Filling-in Under a Pole, after Raising. Lay Road



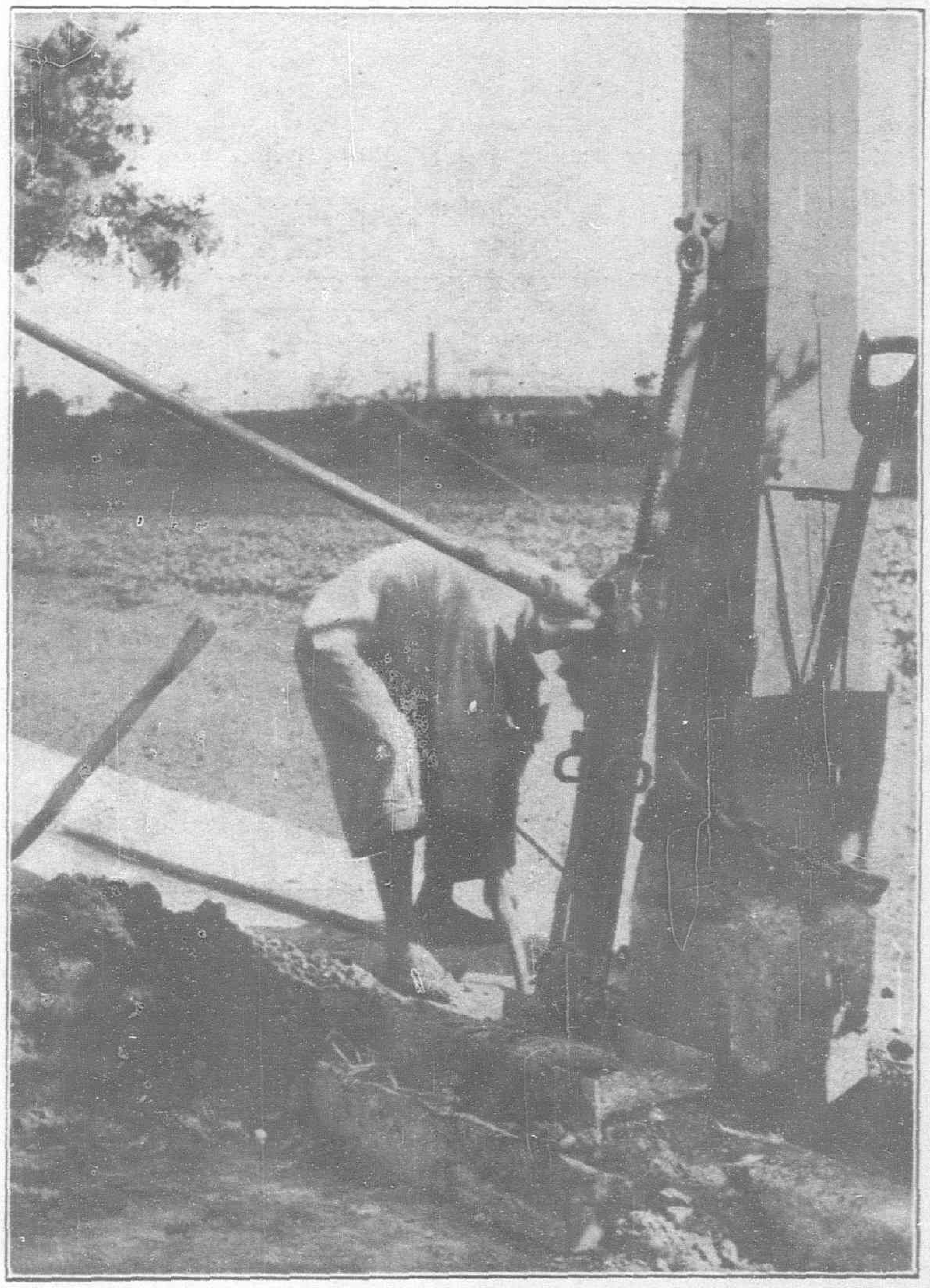
Lay Road, Showing Heavy 10-in. by 10-in. and 12-in. by 12-in. Poles



A 12-in. by 12-in. Pole on Lay Road, with Disconnecting Switch at Top. After being Raised 18-in., while High Tension and Low Tension Circuits were Left "Hot"



"Simplex" Pole Pulling Jack Set for Pulling a 35-ft. Pole on Lay Road, all Circuits Left "Hot"



A Pole on Lay Road Raised by a "Simplex" Pole Pulling Jack, One-Third of the Crew is Filling-in Stone Under Pole to Hold it at New Level

Engineering Notes

Electric Light Company at Wuwei.—An electric light company to be known as the Chih Ming Electric Light Co. is being organised at Wuwei, Anhwei province.

Electric Light Company at Tungchow.—An electric light company known as Tung Kwang Electric Light Co., Ltd. is being organised at Tungchow, near Peking.

Electric Power Rice Mill at Tungshan, Amoy.—The gentry of Tungshan, an island near Amoy, Fukien province, propose to establish a modern rice mill with an electric power plant which will also supply current for city lighting. $100,000 is being raised to buy a plant from Shanghai.

Match Factory at Yangchow.—The buildings and machinery of the Yao Yang Match Factory at Yangchow, Kiangsu province, which was closed in 1925, have been leased to a Shanghai merchant. The factory will soon resume operations under new name and new management. It is located outside Chaokwan on the Canal.

Yung Feng Washing Soda Factory, Shanghai.—The Yung Feng Washing Soda Factory is being organized by Wu Hsin-yüan. It is capitalized at Tls. 3,000 and will be engaged in the manufacture of pure washing soda. Its factory is located at 3 Tĕ Hsiang Li, Tang Chia Wan, West Gate, Chinese City, Shanghai. The manager is Wu Hsin-yüan.

Hua Ta Factory, Shanghai.—The Hua Ta Factory, manufacturers of paper boxes, No. 44/6 Route Conty, Shanghai, has recently been enlarged. The company was organized in 1925. The factory employs 30 workers and in busy seasons 70 women workers. It has seven machines, all Chinese made, for the manufacture of paper boxes, especially cigarette packages, which are manufactured at the rate of 300,000 per day. The manager is Yu Ch'u-ch'ing.

Cotton Cloth Weaving at Anking.—There are at present 180-190 cotton cloth factories at Anking, capital of Anhwei province, equipped with over a thousand looms, mostly made of iron and operated by hand. About a tenth of them are wooden hand looms. These factories produce principally white cotton cloth which is in popular demand in the neighboring districts, while the finer variety of figured cloth consumed at Anking is imported from the outports. There are also about sixty cotton ribbon makers, each with two or three looms. Two or three agents of outport cotton yarn mills are supplying the weavers with cotton yarn.

Kiang Nan Paper Mill, Shanghai.—The Kiang Nan Paper Mill, Ltd. has recently been registered at the Ministry of Agriculture and Commerce. The company was organised in August, 1925, and the first meeting was held in December. Yu Ya-ching, formerly chairman of the General Chamber of Commerce, is one of the promoters. The company is capitalized at $400,000 at $20 a share. Construction of its factory in Tsao Kia Tu has been proceeding for several months, and a part of the plant is expected to be ready for operation by November. The plant will manufacture Chinese paper from rags and straws. It has three machines imported from Japan. The mill will not manufacture newsprint, as costs of production will not allow of competition with Swedish stock. It employs about 200 workers, and its daily output is estimated to be 12 tons. The office is at 32 Avenue Edward VII, Shanghai.

Ta Yi Cotton Mill, Kiangchow, Shansi.—The Ta Yi Cotton Mill, Kiangchow, Shansi province, has been organised by Li Chung-san with a capital of $600,000. The mill is to be equipped with 5,000 spindles to turn out yarns of 16 and 30 counts. Shansi is a cotton producing province; each of the districts in the south western section including Yungho, Yungtsi, Kuwo, Hungtung and Chaocheng, exports annually 110,000 bales to 180,000 bales (1 bale is 150 catties) to Tientsin and Hankow. But so far only one cotton mill is operated in the province, namely, the Chin Hwa Cotton Mill at Yutse.

Pao Feng Cloth Factory, Hankow.—The Pao Feng Cloth Factory, Chiaokow, Hankow, was started in 1925 with a capital of $300,000, having 240 looms each capable of turning out one piece of cloth a day, 3 drawing machines, and other equipment for spinning. It employs 200 men, 80 women, and 20 children. The director of the factory is Tang Shan-cha, and the manager Tan Tze-ching. Yarns of 18 and 20 counts from the Yung On Cotton Mill, Shanghai, are used for warp and those from the Sun Sin Cotton Mill, Hankow, for woof. Cloths turned out from these yarns are known as "fine" cloths, or *shihpu*, being finer than those turned out from yarns of 16 counts. One piece of this cloth contains about 2,400 warp threads, weighs 13 lb., and measures 40 yards in length and 3 feet and a half in width, and is sold under the trade mark "San-pao" at Tls. 7.1 to Tls. 7.8 per piece. Men weavers are paid 100-130 coppers per piece according to skill; female spinners 40-60 coppers a day, and child laborers 40-50 coppers a day, according to output. They work from 6 a.m. to mid-day, and from 1 p.m. to 7 p. m. There are no night shifts.

Tientsin-Paoti Motor Service.—The opening of a motor-bus service between Tientsin and Paoti, Chihli province, has been sanctioned by the Chihli Provincial Motor Service Administration and the service will be started in the immediate future with 10 motor cars. The ticket office is located at Erh Ma Lu, Hopei (Chinese city), Tientsin.

Wireless Telephone between Harbin and Mukden.—The long-distance wireless telephone service between Harbin and Mukden has been in successful operation since August. Extensions of the service to other large cities in Manchuria are planned.

Peking Wireless Administration.—The Peking Wireless Administration opened a business office at Tungchushihkow, outside Chienmen, on September 12 to facilitate the receiving and delivery of commercial messages, which are charged at the same rates as telegrams.

Shanghai-Nanking Railway.—The Shanghai-Nanking Railway has recently completed surveys west of Changchow with a view to building a branch line extending about 40 *li*. Three lines have been surveyed, namely (1) from Sinza Chen Station to Hsiao Ho K'ou, (2) from Pen Niu Station to Hei Mu Chiao and (3) from Pen Niu Station to Yin Sha. It has not been decided which line is to be built. The line proposed is for the purpose of facilitating the transportation of wheat and other agricultural products to the main line.

Radio Telephone Broadcasting Station in Harbin.—The Kellogg Switchboard and Supply Company, 12 Nanking Road, Shanghai, has signed a contract with the Mukden Government to erect a radio telephone broadcasting station in Harbin. This is the first contract to be let for a government broadcasting station in China. The power of the Harbin station will be 1,000 watts. Antennae are approximately 8,000 watts primary power. Two 140 feet galvanized steel towers of the self-supporting steel type will carry the antennae. All of the latest improvements used by the large American and European stations will be installed.

Shaohing-Tsaoao-Chenghsien Motor Road, Chekiang.—Chang Hsuan-chu, former Civil Governor of Chekiang, and other promoters are organising a company with a capital of $1,000,000 for the construction of a motor road from Shaohing to Chenghsien through Tsaoao. The company will be known as Shaohing-Tsaoao-Chenghsien Branch Motor Road Co., Ltd. The promoters have subscribed one-half of the fixed capital while the remainder is open to public subscription. The proposed route starts from Wuyunmen, which is the terminus of the Siaoshan-Shaothing Road, running eastward and passing through Kaofow, Fankiang, Taoyen, Chinkow, Tungkwan and Tsaoao, where it turns southward, passing through Haopa, Shangpu, Wangkiawei, Changkiafow, Sankai, Yunpu Tsingfeng, Sienyen and Shanshutan to connect with the Chenghsien-Shanshutan Road.

The road passing through Shaohing and Chenghsien is a part of the trunk line of the Chekiang provincial highway connecting Hangchow, the capital city, with Futinghsien in Fukien province, passing through Siaoshan, Shaohing, Chenghsien, Sinchang, Tientai, Linghai, Hwangyen, Wenling, Yotsing, Yungkia, Juian and Pingyang, the total length being 897 *li*. The road from Hangchow to Shaohing is being built by the Provincial Highway Bureau, the Siaoshan-Shaohing section having been completed and opened to traffic last spring. The Kiangtow-Hushih section in Hangchow district, is being surveyed. The section from Chenghsien to Shanshutan is to be built by the Public Works Bureau, land on the route having been purchased last spring. But between Shanshutan and Shaohing, there is still a distance of over one hundred *li* devoid of any decent roads. It is this section that the new company proposes to build. With the construction of the Shaohing-Tsaoao-Chenghsien section one-third of the trunk line between Chekiang and Fukien provinces will be completed.

The Mingpo-Tsaoao section of the Shanghai-Hangchow-Ningpo Railway has been built as far as the east bank of the Tsaoao River. Between the town of Tsaoao on the west bank of the River and Shaohing city there are regular steam boat services. The Shaohing-Tsaoao-Chenghsien road will connect with the Siaoshan-Shaohing road on the west and is only separated by the Tsaoao River on the east from the Ningpo-Tsaoao section of the Shanghai-Hangchow-Ningpo Railway. Its completion will give much greater facilities to travellers between Hangchow and Ningpo than they enjoy at present. On the south, the new road will also establish connection with the Chenghsien-Shanshutan road, reaching Hohwatitow Chenghsien city. As Chenghsien and Sinchang are noted for their cocoons, tea, tobacco and other products, heavy passenger and freight traffic is expected on the new road.

Tobacco Growing in Manchuria.—Tobacco growing was originally introduced into Manchuria from the Philippine Islands through Japan and Korea. With the construction of the Chinese Eastern Railway, the suitability of the Manchurian soil for tobacco cultivation began to attract the attention of the Russians, and through official and private encouragement the industry in Manchuria has grown year by year. Manchurian tobacco is noted for its fine quality, and is well-known not only among the Chinese but also among the Russians and Japanese. But primitive methods of preparing leaves are still followed. After the leaves are picked, they are piled up in the field, covered with grass, and then gradually removed into cellars, where they are covered with mats till they turn into an orange yellow color. They are then taken out and bound in bundles with rope for drying on frames in sunshine. At night they are covered with grass mats to protect them against dew and frost. After being thoroughly dried, they are pressed and wrapped into bales for export. The success of this method of preparing tobacco leaves depends entirely on nature and great care is necessary.

The best tobacco in Manchuria is produced on the Upper Sungari River in Kirin province. While tobacco is grown extensively in the Sungari River valley, Omu, Piaoho, Kiaoho, Tunhwa, Kiapikow and Mopanshan are the best known and most important producing centers. Along the Chinese Eastern Railway, the districts of Ashiho, Pinchow, Maoerhshan and Tungpinhsien yield the best tobacco. A Russian estimate puts the annual production of tobacco in Kirin province at 1,350,000 poods. The product of the Upper Sungari River is shipped to Kirin city, which is the center for distributing Manchurian tobacco to Chihli and Shantung provinces through Changchun Mukden, Tientsin and Tsinan. The consumers of Manchurian tobacco in Chihli and Shantung provinces generally consider the Kirin product as being a finer product than that of the other two provinces, Fengtien and Heilungkiang. Kirin tobacco of the superior grade is for export, the inferior for local consumption. Although cigarette smoking is becoming more popular in Manchuria, the practice is only in vogue in the larger cities and towns. The country folk still use the old-fashioned Chinese pipe for smoking *kwantung*, or Manchurian pipe tobacco. Several brands of foreign cigarettes are manufactured from Kirin tobacco leaves.

As the Mongols living in regions on the Manchuria border also consume pipe tobacco, a portion of the Manchurian product along the Chinese Eastern Railway, amounting to about fifty thousand poods a year, is exported to Mongolia. According to experienced tobacco growers, tobacco, like grapes, thrives best in moderate climate. Cultivation of tobacco in rich grape-producing regions usually produces very good results.

More Motor Roads.—Construction of motor roads in Chekiang province is in rapid progress. The Hanghisen-Yuhang, Yuhang-Wukang, Hanghsien-Fuyang and Siaoshan-Shaohing roads are either partly or wholly completed and motor-bus services have already been started on these sections. The Keng-Ling (from Kenk-shanmen at Hanghsien to Lingpingchen) Motor-Bus Co. has extended the line to Haining and renamed the compnay Hanghsien-Haining Motor-Bus Co., Ltd. The building of this road has gone as far as Chiaoszu, and the remaining section will soon be completed. The whole line covers 63 *li*. Construction of the Yuhang-Wukang line will reach Mokanshan, a popular summer resort in Chekiang province, before the summer vacation this year.

Kalgan Wireless.—The wireless station at Kalgan, which has been transmitting commercial messages for a number of years, is encouraging the use of wireless by the public. Notifications have been issued to the effect that the Station will charge the same rates as the Telegraph Administration, with a free service for coding and decoding, and will transmit messages to Peking, Tientsin, Shanghai, Hankow, Paotowchen, Yunnanfu, Mukden, Harbin, Newchwang, Changchun, Tsitsihar, Chefoo, Tsingtao, Tsinan, Loyang and Foochow.

Railway Benefits.—The Ssupingkai-Taonanfu Railway had led to an increasing development of the north-western section of Fengtien province. In spite of the poor sandy soil which covers much of this region, settlers continue to pour in from districts further south. The two cities of Tung-liao-hsien and Taonanfu have grown considerably in size and importance within the last couple of years. To obviate the lack of sufficient water in the latter city, artesian wells are being sunk, several of them within the houses, to prevent freezing during the cold season.

Wireless Rates.—The wireless station in Tientsin is now able to communicate with the stations at Harbin and Yunnanfu, and will accept private messages for transmission to these places at the following rates :—Harbin, ordinary message, 12 cents per word, code or foreign language message, 18 cents ; Yunnanfu, ordinary message, 18 cents, code or foreign language message, 27 cents. Messages are accepted at the head office of the Tientsin Telephone Administration at Chakow.

Harbor Works in Dutch East Indies.—An interdepartmental Committee appointed by the Government of the Netherlands to consider the question of the construction of a new deepwater harbor at Samarang (Java) has issued its report and has made the following four recommendations : (1) that the building of a new deepwater harbor at Samarang is both necessary and possible : levies must be raised on those using the port until it can pay its way. (2) The present is considered a very suitable time for carrying out the work, which should be started forthwith. (3) The continuance of the system of payment which has been used by the authorities and the Government for the last two years. (4) The existing form of management should be retained for the exploitation of the new port.

Sun Sing Manufacturing Co., Ltd., Shanghai.—The Sun Sing Manufacturing Co., Ltd., E. 670 Burkill Road, Shanghai, has been organized. It is capitalized at $20,000 at $50 a share. $12,000 has been paid up. The company will manufacture plain and fancy handkerchiefs. It has 16 machines, 4 of which are used for embroidering. Its manager is John K. Chien. The company was officially opened on September 27.

Increased Demand for Motor Cars.—Motor cars for the first time took their place in the tables as a " million tael " commodity and deserve some comment. During the year 1,063 cars, valued at Hk. Tls. 1,364,922, were imported. A considerable number of the cars were for military use, but it is impossible to say exactly how many, as buying by the military was spasmodic and reliable statistics of the local industry are not available. Most of the cars were of American make. The small English car, however, is gaining favour with the foreign population in Tientsin ; it has, however, little vogue in Peking.—Tientsin Customs Report, 1925.

Zoong Sing Cotton Mills, Shanghai.—The Zoong Sing Cotton Mills, Limited, with a registered office at 8 Rue du Consulat, Shanghai, showed a net profit of Tls. 301,380.89 for the year ending June 30, 1926, according to the annual report delivered at the seventh general meeting on October 6, 1926. Out of the profit a total of Tls. 90,000 will be paid in dividends, making Tls. 0.60 per share. The company has an authorized capitalisation of Tls. 2,000,000 at Tls. 10 a share. It's paid up capital is Tls. 1,500,000.

Dah Sun Hosiery Company, Shanghai.—The Dah Sun Hosiery Company of Canton has taken over the Lien Bik Knitting Mill, Shanghai. It will manufacture and market hosiery under the trade mark of "Red Horse." The factory has 60 machines, employs about 80 workers, and produces about 90 dozens of socks and stockings per day. It also manufactures gloves, scarves, and underwear. It has a store at 153 Nanking Road, Shanghai. Its manager is Li Yen-chih. The head office is located at Hsi Kua Yuan, Canton. The most expensive silk socks are sold at $15 per dozen and the cheapest at $10.80. The most expensive silk stockings are sold at $20 per dozen and the cheapest at $12.60.

New Bridge at Mukden.—The Mukden paper reports that the South Manchuria Railway Company is now constructing an iron bridge at the old station, with a view to improving communications and preventing accidents. The estimated value of this bridge is $200,000, 3-10 of which will be paid by the Peking-Mukden Railway on account of transportation facilities extended to them.

Dah Wah Engineering Company, Shanghai.—The Dah Wah Engineering Company has been organized with an office at 287 North Chekiang Road, Shanghai. It will undertake all kinds of electric engineering work. The manager is Nielcom Wang.

Waste Cotton Mill in Shanghai.—The Ku Tien Cheng Waste Cotton Mill has moved to a new building at the corner of North Chengtu and West Soochow Roads, Shanghai. The land, 3.7 acres in area cost Tls. 128,000, and the building, Tls. 23,000. Formerly, it turned out 100 piculs of cotton daily; now the output is 250 piculs. The cotton is obtained by picking the waste. 300 men and 70 women are employed. The old building in North Szechuen Road is now used as a godown. The raw material is supplied from the Shanghai cotton mills. Trade marks are Shang Mei, San Feng, Yu Cheng, Chen Tung Yung, Tung Yung and Yu Li. The proprietor is Ku Yung-foo.

A New Paint and Varnish Company.—The Yung Koo Paint and Varnish Company Ltd., Li Yuan Road, St. Catherine's Bridge, Shanghai, has been organized by Chen K'ang-chih. The company is capitalized at $100,000, 72 per cent. of which has already been subscribed. The company will manufacture washable paint and varnish. Its machinery is imported from the United States, and its raw materials are partly imported from Europe and the Straits Settlements. The company is entirely Chinese. Its product is expected to be less expensive than that imported on account of the proximity of wood oil. The company is the third Chinese concern of its kind in Shanghai. The other two are Kai Ling and Chen Hua.

Manufacture of Oil Colors.—Marie and Co., has recently added a department for the manufacture of oil colors. The company is a purely Chinese concern, organized in May, 1919. Its factory is located in Kiangwan near the Kiangwan Recreation Ground, and its sales office in Kwang An Li, Paoshan Road, Chapei, Shanghai. The manager is Hsu Pao-sheng. The company turns out 12 water colors: vermilion, ultramarine, Prussian blue, light red, yellow ochre, burnt sienna, crimson lake, Chinese white, Hooker's green, sap green, mauve, and chrome yellow; and 12 showcard colors: dark blue, light blue, dark red, light red, dark green, light green, violet, white, brown, orange, yellow, and black. According to its new plan, it will manufacture nine oil colors: lemon yellow, zinc white, ivory black, cadmium yellow, rose madder, emerald green, virdian tint, flake white, and cobalt blue.

Wireless Communication between Tientsin and Sinkiang.—The wireless station at Tientsin has resumed communication with Mukden, Kalgan, and Suiyuan. Trial messages have also been sent to and received from Tihwa Urumchi), Sinkiang province.

Shanghai Electric Construction Co., Ltd.—The Shanghai Electric Construction Co., Ltd., 7-8 Soochow Road, Shanghai, began on October 1 to pay first interim dividend in sterling at the rate of 4 per cent. less income tax at 4s in the £ in respect of the year ending December 31, 1926, at the Eastern Bank, Ltd., 4 Crosby Square, London E.C. Payment may also be negotiated in Shanghai currency at the demand buying rate on London for coupons on date of lodgment at the Hongkong & Shanghai Banking Corporation, Shanghai.

Southeastern Wireless Administration.—The Southeastern Wireless Administration was officially inaugurated on August 15 in Shanghai. The administration has four departments: a Department of General Affairs, an Engineering Department, a Revenue Department and an Inspection Department. It has control over the provinces of Kiangsu, Chekiang, Fukien, Kiangsi, and Anhwei. At present three wireless stations are under the control of this administration, namely, the Woosung Wireless Station, the Nanking Wireless Station, and the Foochow Wireless Station. The administration will formulate plans for the development of wireless communication for commercial purposes. The administration is occupying a part of the Chinese Telegraph Administration building at the corner of Foochow and Szechuen Roads, Shanghai.

Air Service Between Osaka and Shanghai.—A tentative plan for an Osaka-Shanghai air mail and passenger service has been arranged between Chinese interests and S. Bando, managing director of the Nippon Kooku Kabushiki Kaisha, Kobe. The plan calls for a trial flight of three aeroplanes from Osaka *via* Fukuoka and Mopoo to Shanghai. The entire distance between Osaka and Shanghai can be covered in 11 hours and half: from Osaka to Kukuoka in 3 and half hours; from Fukuoka to Mopoo in 4 hours; and from Mopoo to Shanghai in 4 hours. The Kawanishi No. 7 type is being used. Hung Yun-chung has been appointed inspector. If the trial flights are successful, new aeroplanes will be ordered from Germany for the air mail service. The Shanghai station will be located in the vicinity of Black Point, Shanghai, which was selected by Mr. Bando's Japanese pilots who came with him to Shanghai. The company is capitalized at Y.2,000,000. An additional Y.1,000,000 will be added in two years. The company has 20 pilots and 25 engineers. The head office is at 114, Kawasakicho, Kobe, and the factory at 1, Otake, Shirüke, Kyago, Kobe. Four hangars have been leased at Osaka, Beppu, Kulsuoka and Dairen.

Canton to Instal Automatic Telephone Service.—The municipal authorities of Canton have recently signed a contract with an American firm for the installation of 4,000 automatic telephones, each provided with an automatic switchboard, at a cost of G. $700,000 or $1,700,000, Canton local currency. According to the terms of the contract, the American firm is to furnish all machinery and engineering work, while the Canton Government supplies buildings and labor. One-third of the total cost of equipment is to be paid within one month after the installation of the whole system, which, it is estimated, requires only 18 months. The remainder to be paid in monthly instalments from the receipts of the telephone service. It is also stipulated that before the total sun is fully paid, the American firm has the right of inspection of the accounts of the Canton Telephone Administration. For the installation of a new automatic telephone, the Administration charges $300, but a discount of $100 is given to all old subscribers who pay within three months after the signing of the contract with the American firm. After the installation of the new system, the old service will be abolished. Installation of the 100 automatic telephones in the official organs is now in progress and will be completed in three weeks.

Japanese Highways.—The home department of the Japanese government has decided on a tentative construction program for the improvement of highways, particularly for motor traffic, the cost of which is estimated at about 160,000,000 yen, to be spread over a period of about 10 years, says *Commerce Reports.*

The government will contribute toward this fund approximately 50,000,000 yen, the remainder to be supplied by the prefectures and cities benefiting. There are now about 53,000 miles of highways in Japan, of which 14,500 miles have been recommended as main roads for motor vehicles and 4,880 miles have been set aside as important highways for automotive traffic. It is this mileage which will be placed in condition first.

Power and Its Distribution

(Continued from page 518.)

rapidly is superpower development progressing that an undoubted authority on rural electrification recently stated that within ten years one million American farms will be supplied with electric service from central power systems.

No one questions the great value of electric power to the farmer. Give the farmer electric power at a reasonable cost, and he can relieve himself and his family of a large portion of their burden of labor, increase his productiveness, and improve his standard of living.

This last is of foremost importance because people will be loath to leave the city as long as it offers greatly superior living conditions. But superpower, the automobile, radio, and other developments are gradually reducing the disparity between city and rural life, and we can hope the balance will in time become more even.

The farmer of yesterday was a man of muscle, a swinger of the scythe. The farmer of to-day, thanks to the Department of Agriculture, the State Agricultural School and his own organizations, is becoming competent to carry on one of the most highly technical professions in the world. The farmer of to-morrow will have at his disposal the same facilities and resources as the industrial worker; and, if he is equally progressive, he will bring agriculture back into step with industry.

The Results to the Nation

And what will all this mean to the nation?

It will mean that all classes of Americans will be able to turn their productive abilities to better account.

It will mean an increase in production per worker, and this means an increase in the wealth of both the nation and the average family.

It will mean a fuller use of one of our great natural resources—land.

It will mean greater economic and political solidarity. Much of the country will be part industrial and part agricutural, so that highly specialized sectional interests will tend to disappear, and political radicalism, which always results when a large number of people suffer the same economic ills at the same time, will become weakened.

From the standpoint of national defense, we shall be in an enviable position because of our excellent facilities for turning out rapidly, in an emergency, all vital munitions of war.

Transportation will be conserved by reducing the length of the hauls between producer and manufacturer and consumer. The reduction in the haulage of fuel, due to the general use of the electrical method of distributing power, will be another item in this same account.

I must not be understood to be prophesying a millennium when troubles will be no more. Far from it. The new era will bring plenty of troubles of its own; but at least they will be somewhat different from those that have afflicted us, and they will be tempered by greater material welfare.

I wish that I could see as clearly a certainty of spiritual gain for the nation, but that does not come from without. I can only say that mankind does appear to be slowly climbing toward some distant and unseen goal, and I know of no reason to despair of further progress on the part of the next generation.

Finally, is there a menace in these new developments? A possibility that we shall be building a gigantic machine which, like Frankenstein's monster, will destroy its creator?

In spite of numerous alarmists, I think we need have no fear. Man is infinitely greater than his works.

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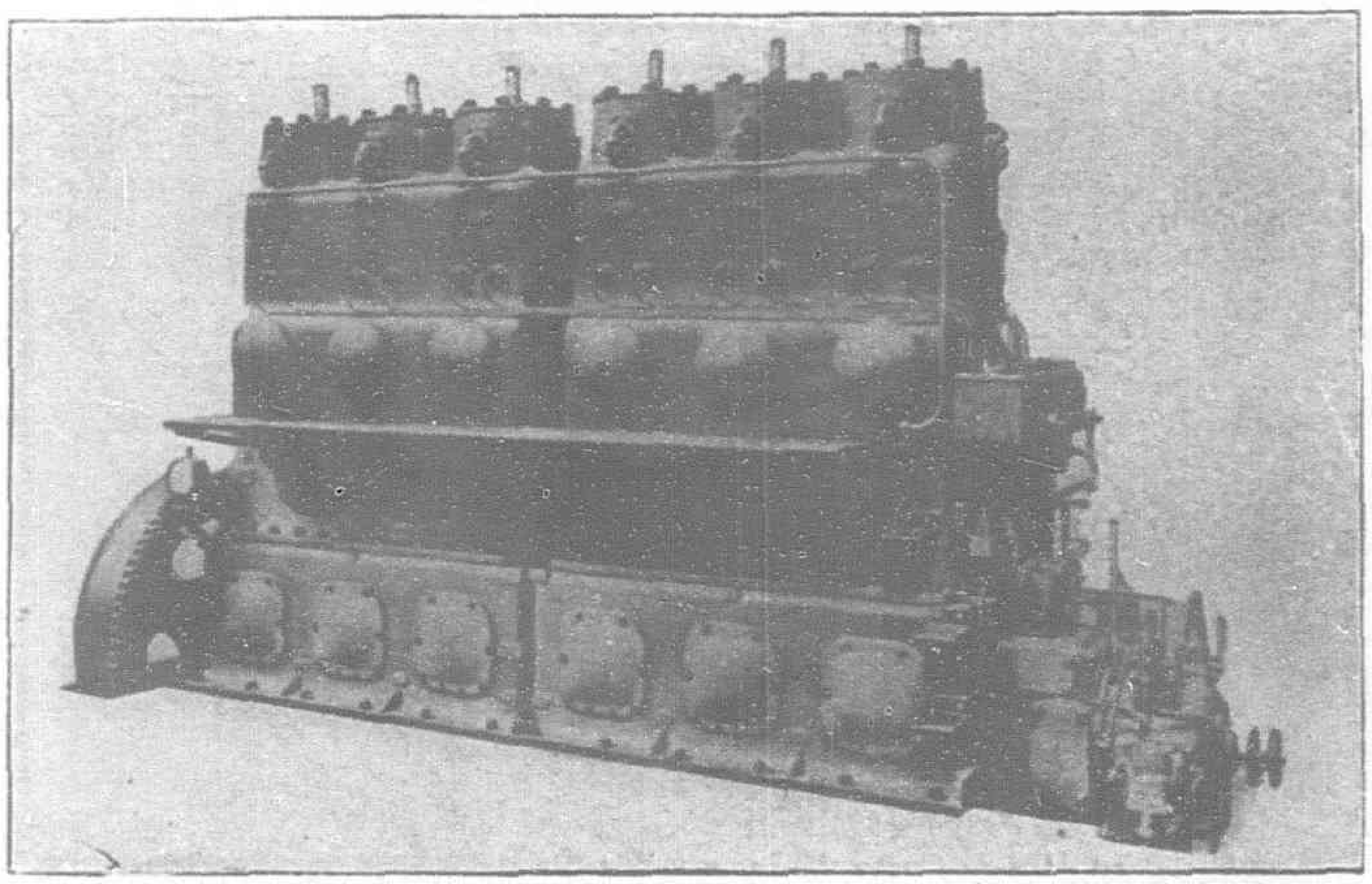

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Correspondence

Deep-Draft Wharves in China

By P. Timme, Dipl. Eng. Siemens-Schuckert Denki Kabushiki Kaisha, Tokyo

WITH reference to an article entitled "Deep-Draft Wharves in the Whangpoo," appearing in the July edition of *The Far Eastern Review*, I would like to make some remarks in reply.

Attempts are made in said article, considering the extraordinary bad soil-conditions at Shanghai, to find the best constructing method and the most suitable material for the construction of quay walls for big ocean steamers.

The whole lower stratum within the area of the mouth of the Yang-tse-kiang consists, as has been ascertained by drilling, of soft clay interposed by thin layers of sand. For this kind of soil then, as discussed by Dr. Eng. A. Berrer in *Die Bautechnik*, number 52, of December 4, 1925, the usual calculations of earth pressure, all of which assume flat sliding surfaces of the soil, are of no use. It is of course known, that the sliding surface of the earth behind retaining walls is in fact not level, but is showing a concave curve, which, however, in most cases is so flat, that it has been neglected in the various theories of earth pressure.

Mr. Berrer further declares, that diverse breakdowns of quay walls in the port of Shanghai and the investigations of their causes have clearly proved, that there must have been a strongly curved sliding surface. Consequently there had been adopted a new method of culculation, which is said to have proved well. For this method of calculation the fact is used as a basis, that the friction angle of the clay is decreasing with the depth of soil, which can be explained by the clay getting muddier and softer with increasing pressure.

Thus the natural consequence is the necessity of a deep foundation and a construction of the quay walls as light as possible.

The author of the article "Deep-Draft Wharves in the Whangpoo" sees the solution of this question for *Shanghai* in a quay, the foundation of which is to be constructed of wooden or concrete piles and its superstructure of iron concrete. For other parts of the Chinese coast the aforesaid substructure is of course entirely out of question, as the piles would in short time be destroyed by sea-water. According to the author's statement the conditions for Shanghai are more favorable insofar as the Yang-tse-kiang does not carry sea-water but only fresh water, thus eliminating the dangers to which wooden piles are exposed by ship worms and concrete piles by the other effects of the sea-water, extremely harmful especially for concrete. There always remains, however, for wooden piles the danger of rottening in the dangerous zone directly above low water and for concrete piles the risk of washing out and destruction by frost in the same zone. Further there is, however, the danger, that with the open pile quay the soil is scoured at the piles, consequently the friction surface between pile and soil is reduced and the quay wall begins to sink.

It is clear by these short facts, that the combined way of construction as proposed for Shanghai, of wooden or concrete piles with concrete super-construction cannot be used at all for harbour with sea-water and even for Shanghai only conditionally.

On the strength of my theoretical studies and many years of practical experience I would like to propose a constructing material and a method of construction, which is modern, from the technical and economic viewpoint absolutely up-to-date, which, however the author of the discussed article though mentioning it in a short sentence, has omitted to discuss in details, for reasons unknown to me.

It is the closed quay wall of Larssen Steel Sheet Piles.

The same fulfills in the highest degree all requirements without any restrictions, which the author is setting up for a quay wall. The Larssen-wall, for the case reported, is surely the lightest construction, coming into consideration and is at the same time absolutely stable. At the construction and calculation of this quay wall there can easily and to the full extent be taken into account the peculiarity of the soil, so that just for the special conditions at the Chinese coast the same cannot be surpassed by any other construction. There must still be added that the cost of maintenance are minimal. A good coal tar coating during construction of the wall is sufficient for many years. Even this is not absolutely necessary, however, in prolonging the life of the steel quay wall.

The special advantages of the quay walls made of Larssen Steel Sheet Piles consist however :—

(1) In the cost of construction, which are 30 per cent. to 50 per cent. lower than a normal concrete construction (see Fig. 1).
(2) In the time for execution, which is usually half of the building time required for concrete constructions.
(3) In the extraordinary strong capacity of resistance against sudden strains in all directions, caused by tidal waves, earthquakes etc., on account of the extremely strong lock connections of the Larssen piles.
(4) In the extraordinary elasticity of the Larssen piles, which is of greatest importance for the quay walls to withstand shocks from ships bumping into them.
(5) In their capability of cheap and easy repairs by substituting single piles.
(6) In the easy prevention of scouring by having the sheet piles deeply rammed according to the conditions of the soil and water. There must be mentioned that even in case of underwashing of several piles the quay wall never could be destroyed, because of its strong lateral connections.
(7) In their long life duration. In connection with same it

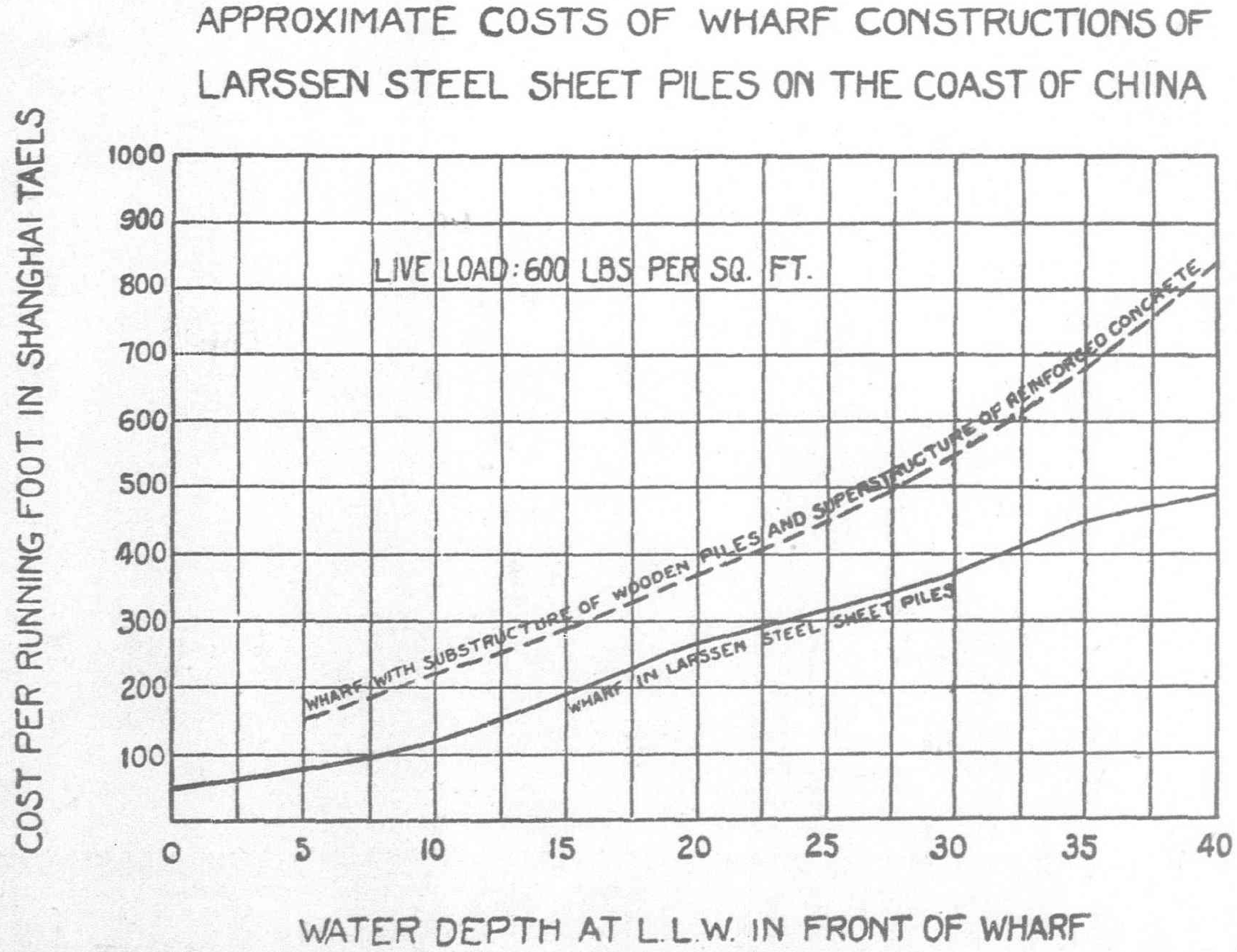
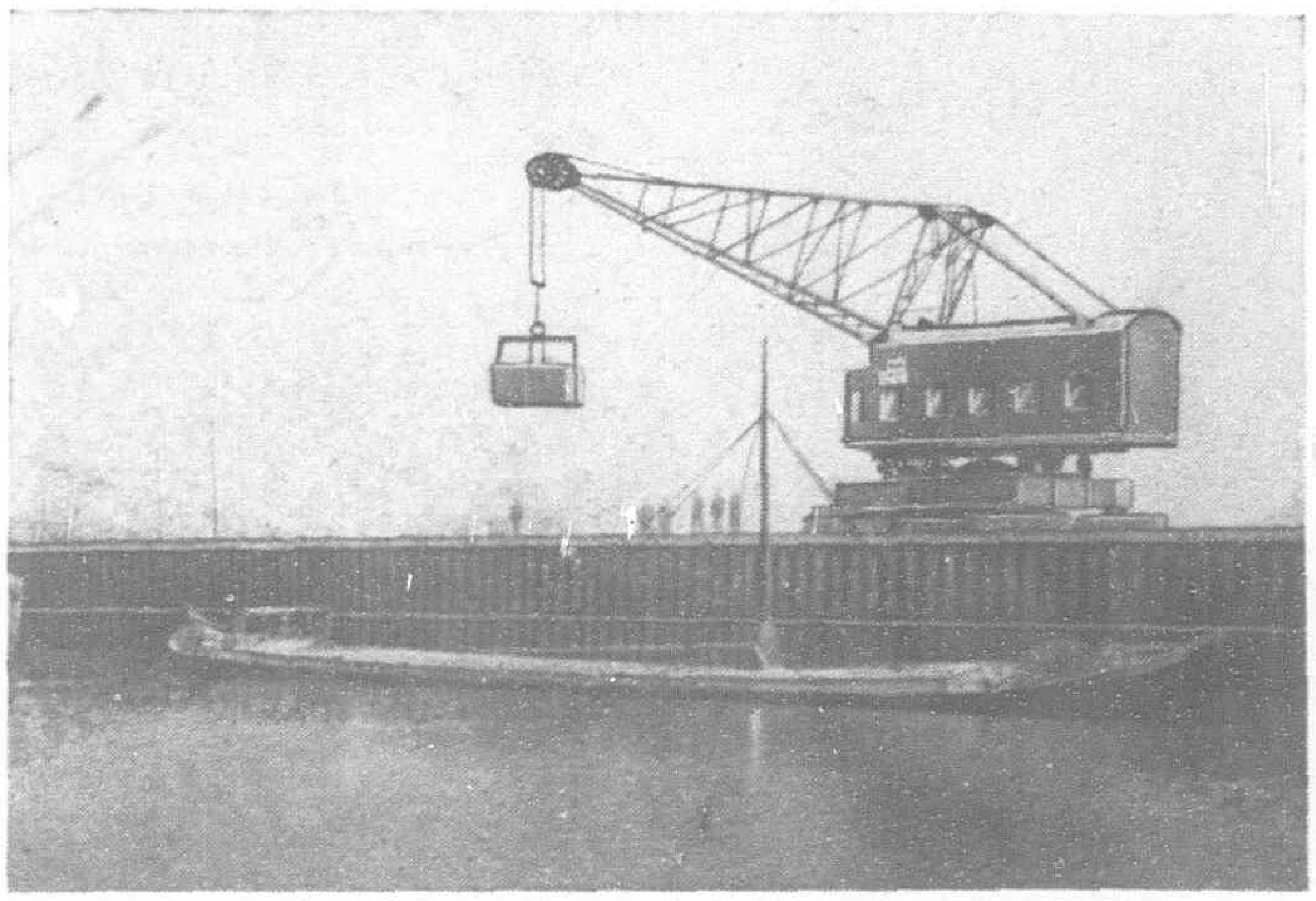
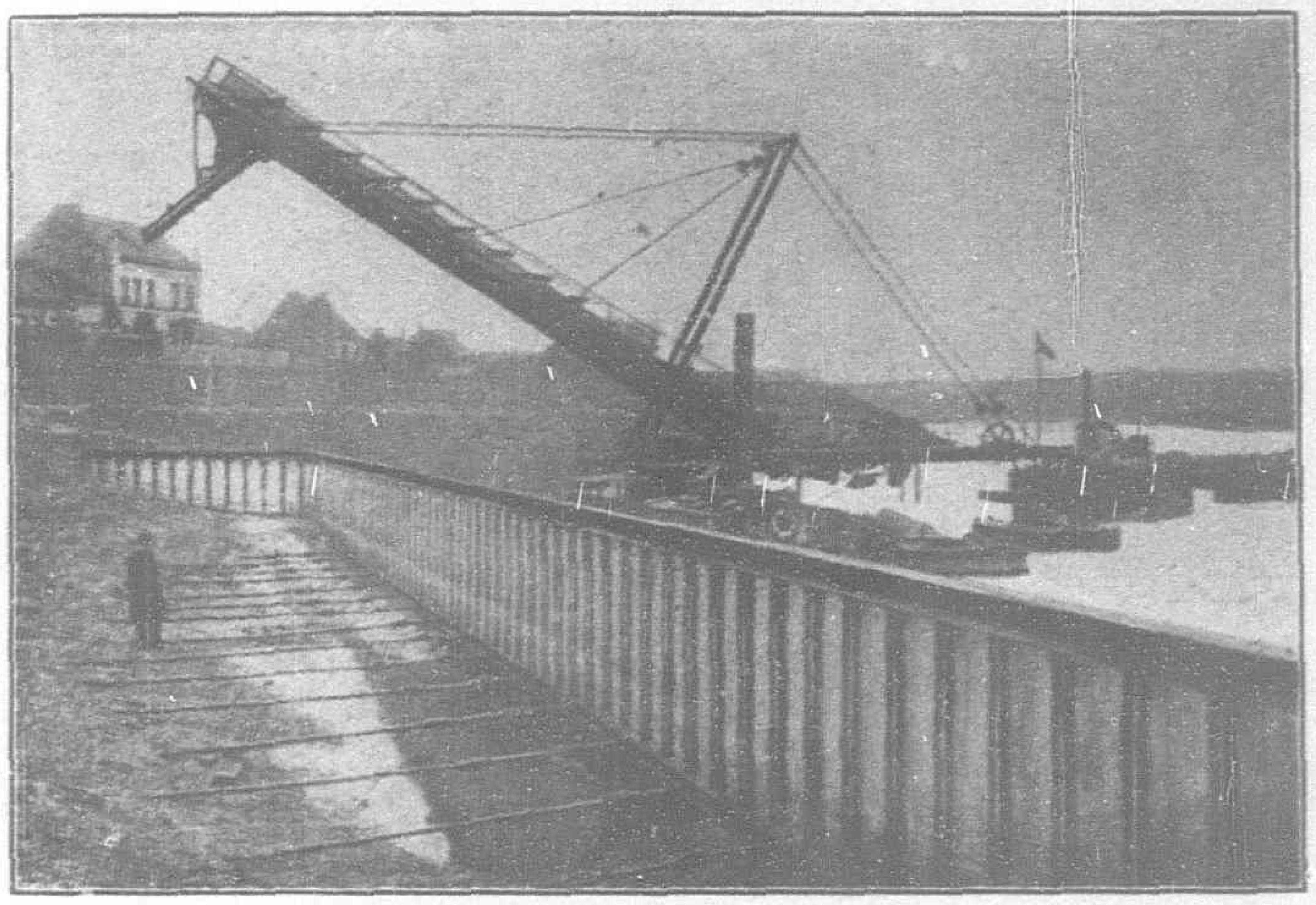


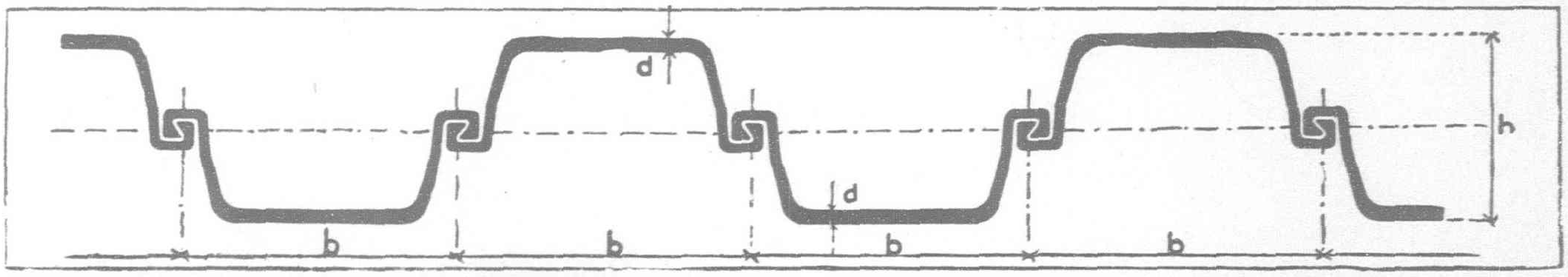
Fig. 1

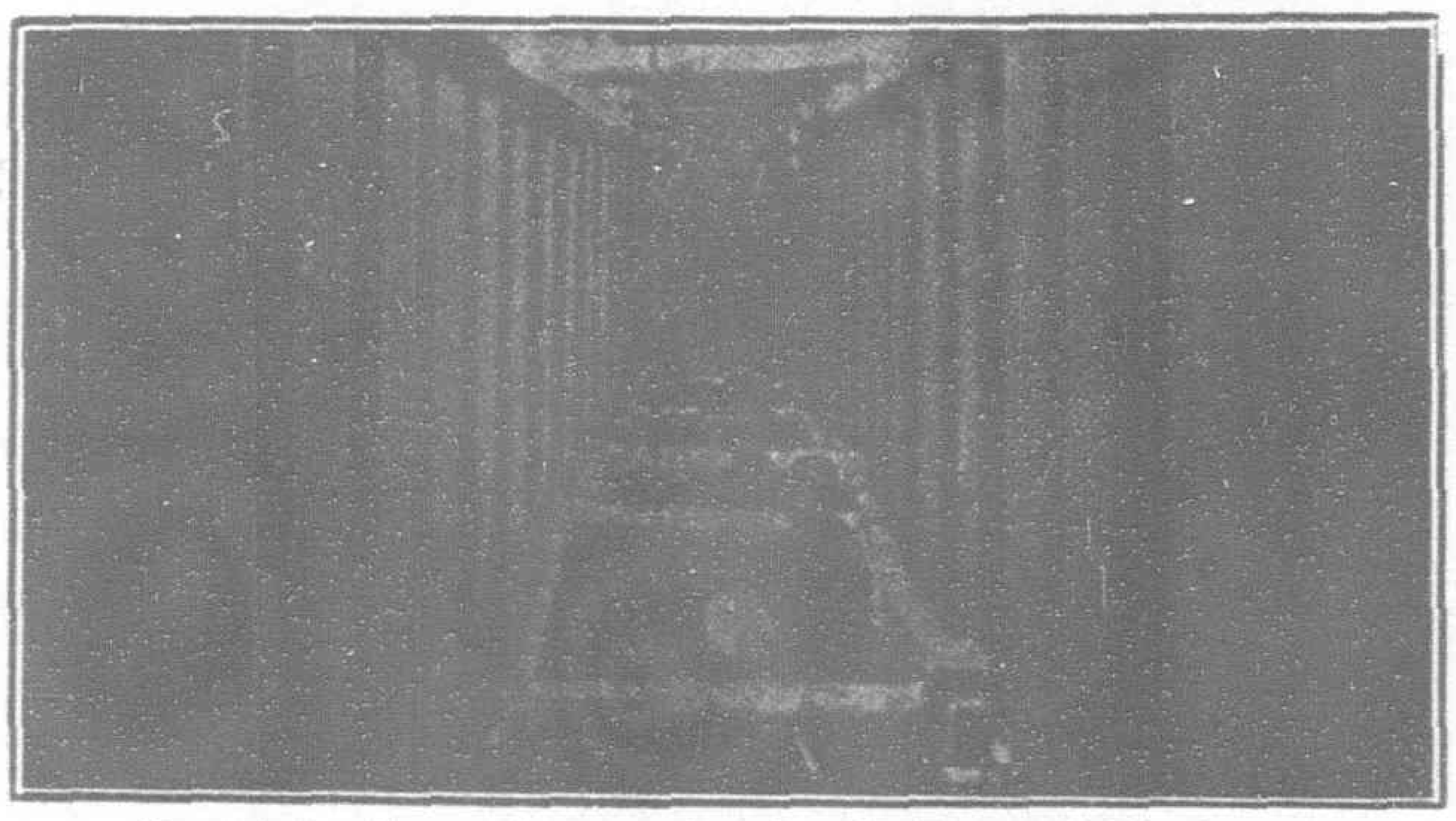


Embankment "Wilhelmine-Viktoria" Colliery Port at Gelsenkirchen belonging to the Hibernia Mining Co.

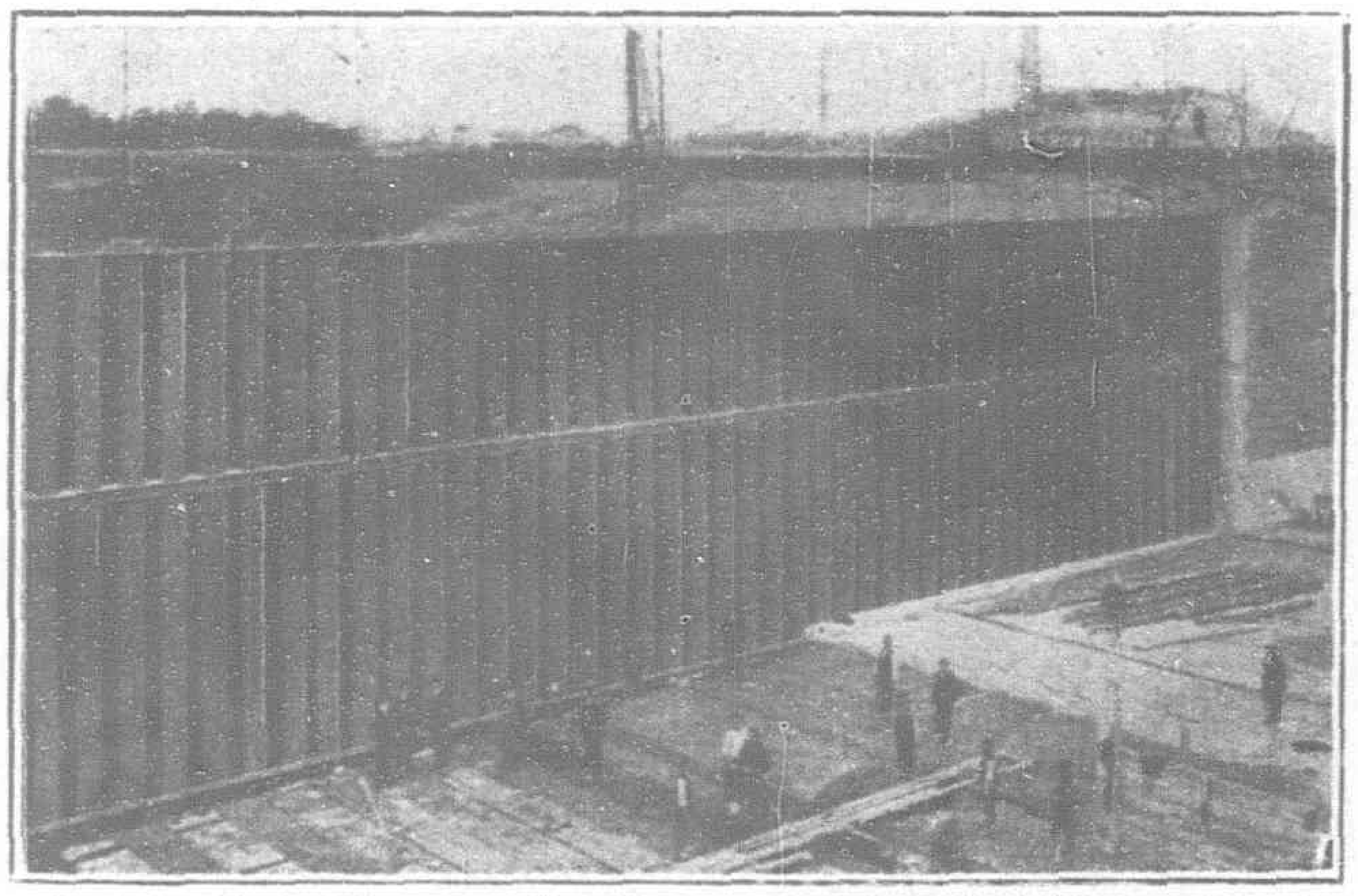


Sand Store at Werderdamm, Bremen, Exposed Anchorage





Trench for Sewer Construction for the Town of Oberhausen



Lock for Train of Barges, Hemelingen, Lateral Wall of Lock, made of Larssen Iron Sheet Piling, Section III., 11-ft. long

RIVETLESS STEEL PILING

LARSSEN TYPE

The Larssen Steel Piling is the oldest and most widely used form of Piling which ensures a high resistance together with the use of a minimum weight of metal. It is the first type of special construction to produce a corrugated wall of rolled steel with a channel section giving a maximum stability and so far it is unexcelled.

The Larssen Steel Piling, by its rectangular dove-tailed lock ensures au absolutely certain guide when driving The individual piles can be easily drawn together and driven, and are quite watertight; they can be withdrawn without difficulty and used many times,

The Larssen Steel Piling is used to replace timber piling which has little resistance. It ensures a secure construction where the foundations are difficult. It penetrates easily hard strata, full of obstructions. Its implifies and cheapens Sewer construction. It enables work to be carried out undisturbed and with ease in running water and effects considerable economy in the cost of driving, rendering watertight and stiffening. It affords a secure protection for deep foundations against high earth pressure.

The Larssen Steel Piling is the most economical substitute for expensive masonry. It has proved very advantageous for all types of Embankments, Quays, Piers and Lock Walls, It permits an extremely rapid and cheap execution of such undertakings. It will hold firm under the highest strains, It is perfectly suited to the most varied conditions. The high quality steel withstands thoroughly any chemical action and is of course free from the danger of the borer-worm.

The Larssen Steel Piling is rolled in five sections with weights of from 96 to 238 kilos per square meter and a moment of resistance of 500 to 2962 cm^3 per meter. Our special Department is prepared to work out projects and estimates without any liability or charge to customers.

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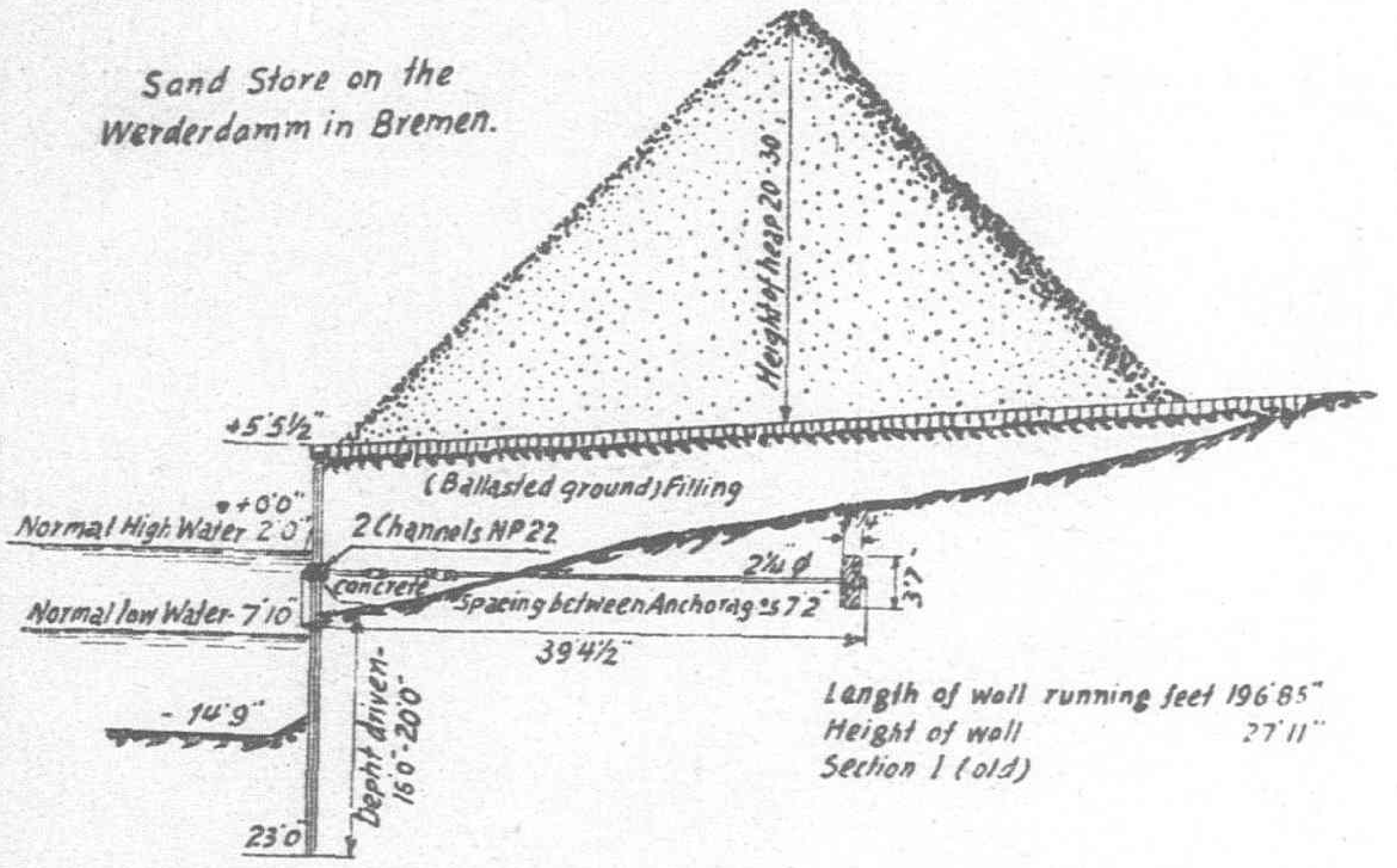
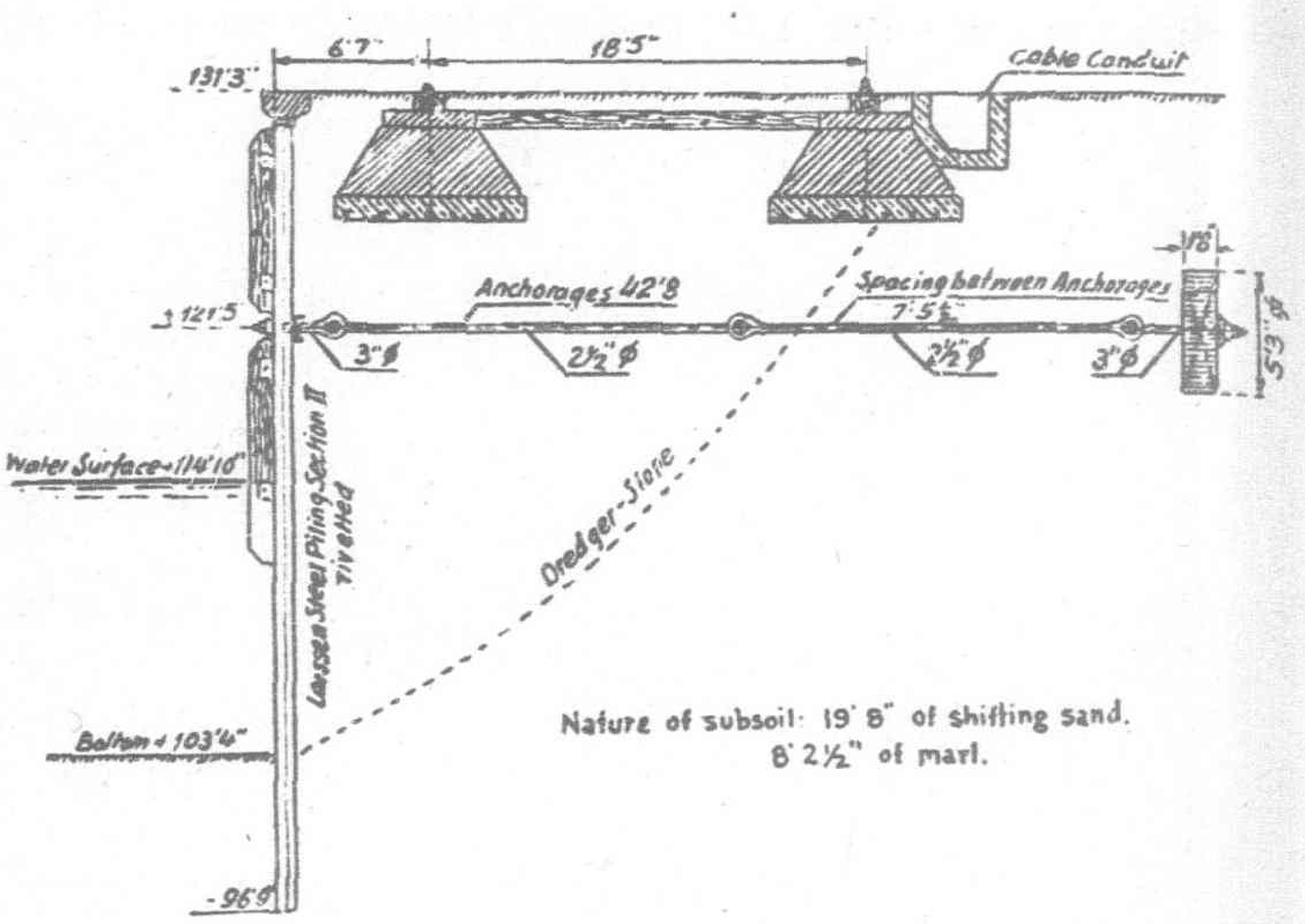
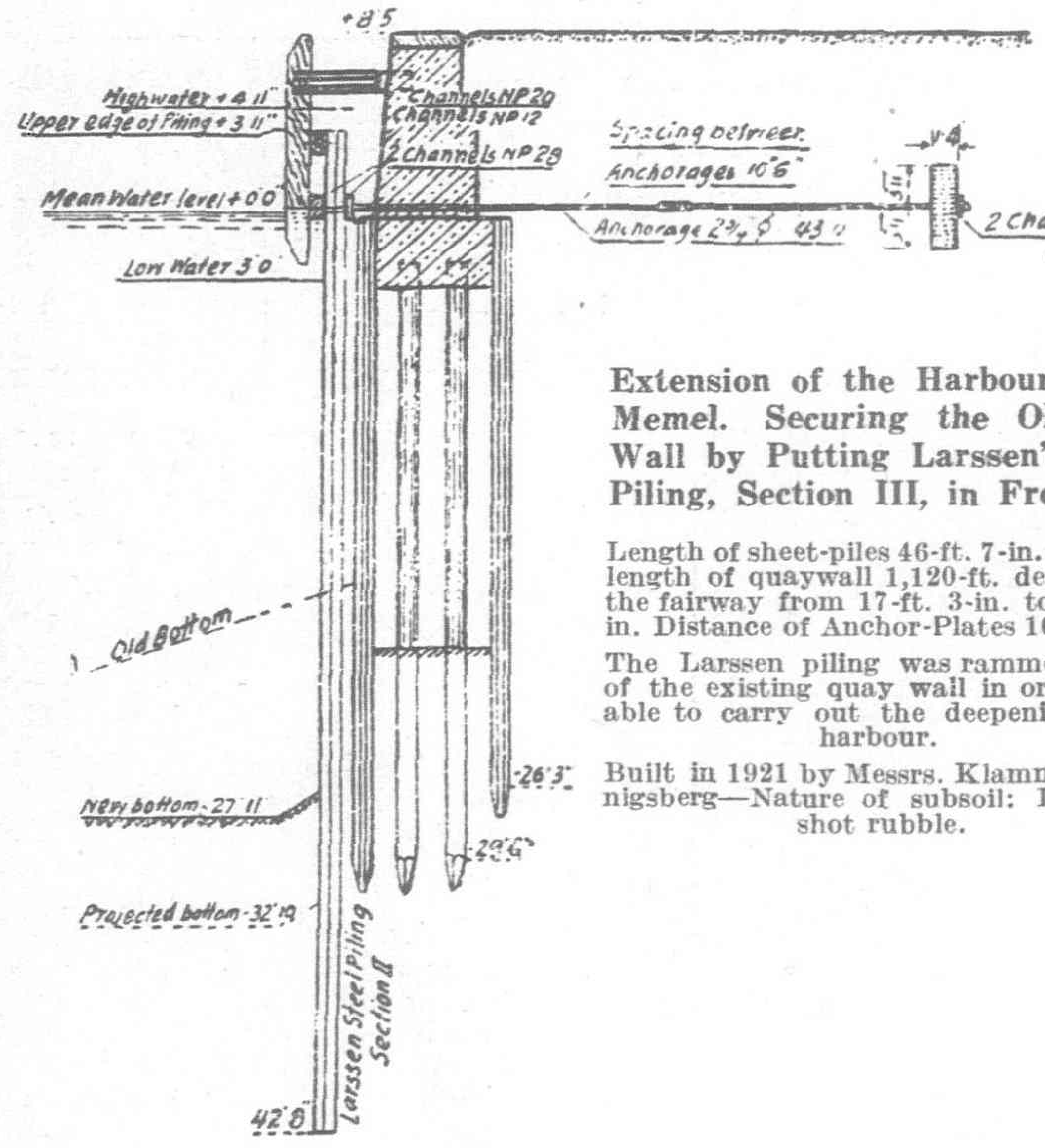



6'7"
18'5"
Cable Conduit
131'3"
Anchorages 42'8
Spacing between Anchorages 7'5½"
1'8"
121'5
3"φ
2½"φ
2½"φ
3"φ
5'3"φ
Water Surface +114'10"
Larssen Steel Piling Section II riveted
Dredger-Slope
Bottom +103'4"
Nature of subsoil: 19'8" of shifting sand. 8'2½" of marl.
-96'9"

is to be remarked, that tests of many years undertaken by German authorities of water constructions have proved, that a sheet pile wall of normal steel of 38 to 44 kg. per mm.^{2} tensile strength without any protective paint has a life of about 80 years in sea-water, whereas the hardsteel supplied by the Deutsch-Luxemburgische Bergwerks—und Huetten A. G. Abteilung Dortmunder Union, with a tensile strength of 50 to 60 kg./mm.^{2} has a life duration at least 25 per cent. longer, so that generally there can be reckoned with a life time of at least 100 years for quay walls of Larssen Steel Sheet piles in sea-water without coating and of 120 years with protective paint. Recently, however, the Dortmunder Union, are putting on the market a copper hard steel, which on account of its copper contents has an almost bewildering capacity of resistance against rusting and therefore a life of several generations.

For conclusion I would still like to mention, that a few months ago the design of a quay wall in Larssen Steel Sheet Piles for the port of Tientsin has been awarded the first prize at the prize-competition.



Extension of the Harbour Works, Memel. Securing the Old Quay Wall by Putting Larssen's Sheet-Piling, Section III, in Front of it

Length of sheet-piles 46-ft. 7-in. (or 51-ft.), length of quaywall 1,120-ft. deepening of the fairway from 17-ft. 3-in. to 32-ft. 10-in. Distance of Anchor-Plates 10-ft. 6-in.

The Larssen piling was rammed in front of the existing quay wall in order to be able to carry out the deepening of the harbour.

Built in 1921 by Messrs. Klammt of Koenigsberg—Nature of subsoil: Loam and shot rubble.

A New Dredger for Indian Government

Messrs. Wm. Simons & Co., Ltd., Renfrew, launched to-day (7-10-26) the Cutter and Drag Suction Hopper Dredger "Vizagapatam" which they have constructed to the order of the Government of India for work at Vizagapatam. The dredger has been built under the direction of Sir J. H. Biles & Co., Naval Architects and Engineers to the India Office.

The vessel is fitted with four sets of triple expansion surface condensing engines, arranged to drive the pumps or propellers as may be required, and steam is supplied by four cylindrical multitubular boilers, fitted with forced draught installation. The dredging outfit consists of 2 centrifugal Dredging Pumps, coupled to a suction frame, designed to dredge to a depth of 45 feet under water. The suction frame is fitted with a drag suction nozzle, which can be easily removed and replaced by a spiral rotary cutter, driven through steel gearing from an independent set of compound condensing engines. "Simons" patent suction keelsons are fitted to the hopper, so that the load may be discharged overboard through a floating pipe line, in addition to the usual bottom discharge by means of doors.

The engine room outfit includes independent condensing plant, automatic feed pumps, bilge pumps, service pumps, filter and evaporator. An outfit of machine tools is provided, capable of dealing with minor repairs.

Wire rope tackle blocks and an independent steam winch are provided for controlling the lower end of the suction frame and independent steam mooring winches are fitted at bow and stern.

The naming ceremony was performed by Mrs. Cartwright Reid, wife of Col. H. Cartwright Reid, C.B.M., Inst. C.E., Engineer in Chief at Vizagapatam.

The South Manchuria Railway

Not Building Pingtichuan-Pangkiang Line

The recent report that negotiations are in progress between the South Manchuria Railway Company and the Chinese authorities for the construction of the Pingtichuan-Pangkiang railway etc., is absolutely incorrect. It is denied officially and absolutely by the South Manchuria Railway management, which goes on to state that even if it should be approached with respect to such a matter, it will not even contemplate it, as it is inconsistent with its policy.